

FIG. 2 PRIOR ART

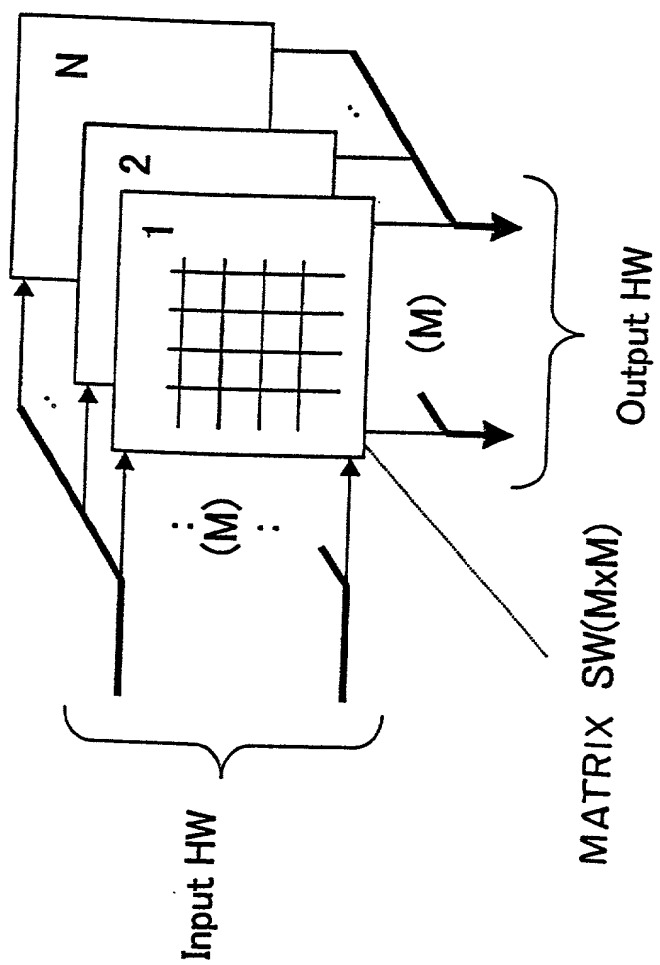


FIG. 3 PRIOR ART

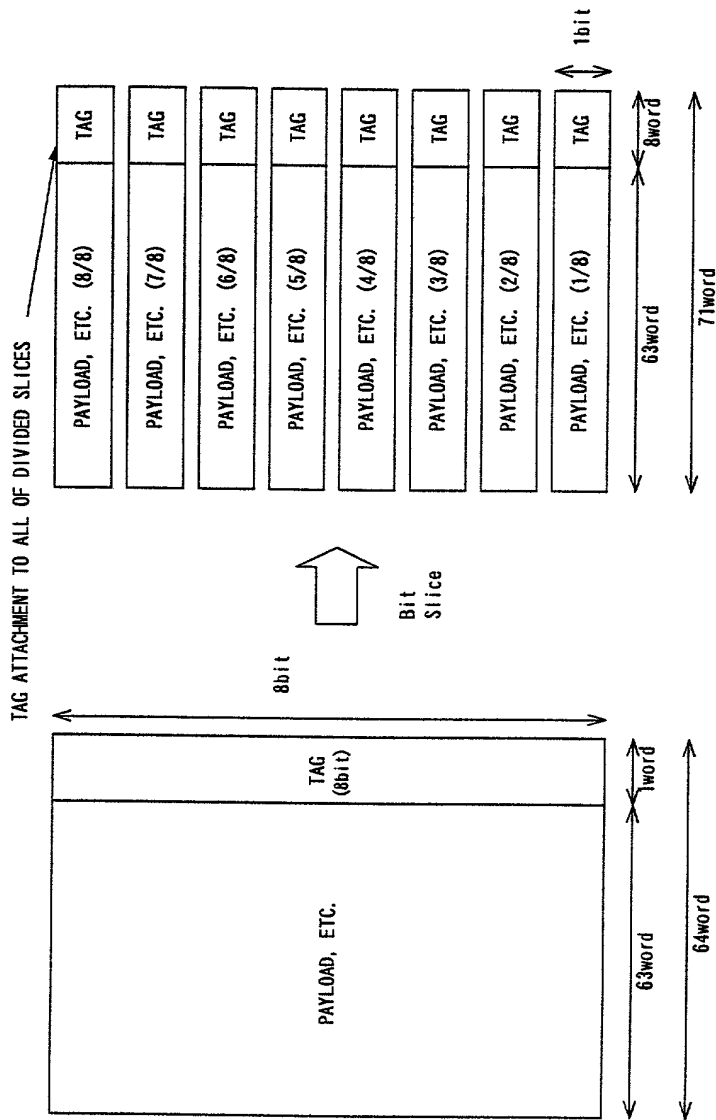


FIG. 4 PRIOR ART



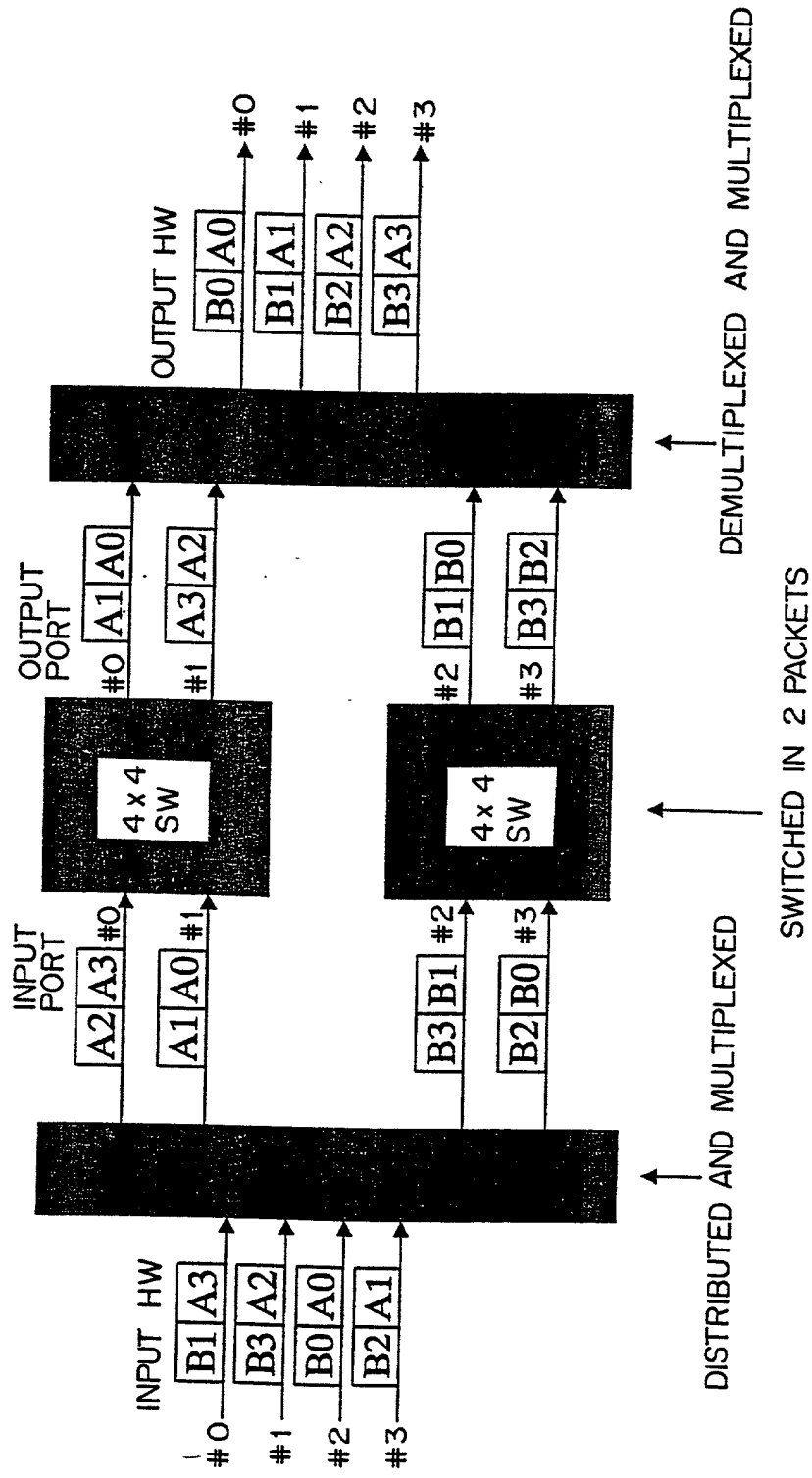


FIG. 6

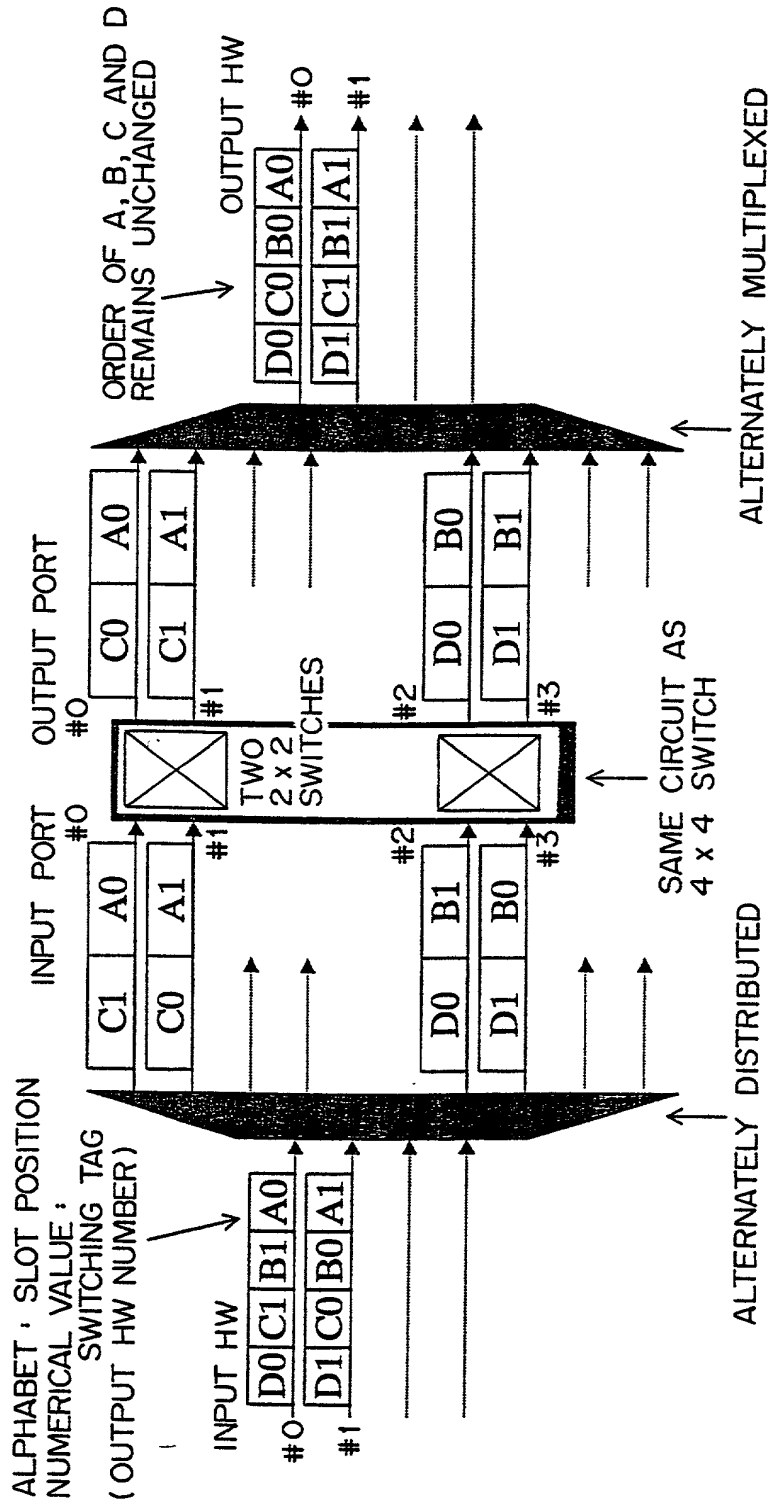


FIG. 7

1. The first step is to determine the input and output ports of the system. The input ports are labeled #0 and #2, and the output ports are labeled #0 and #2.

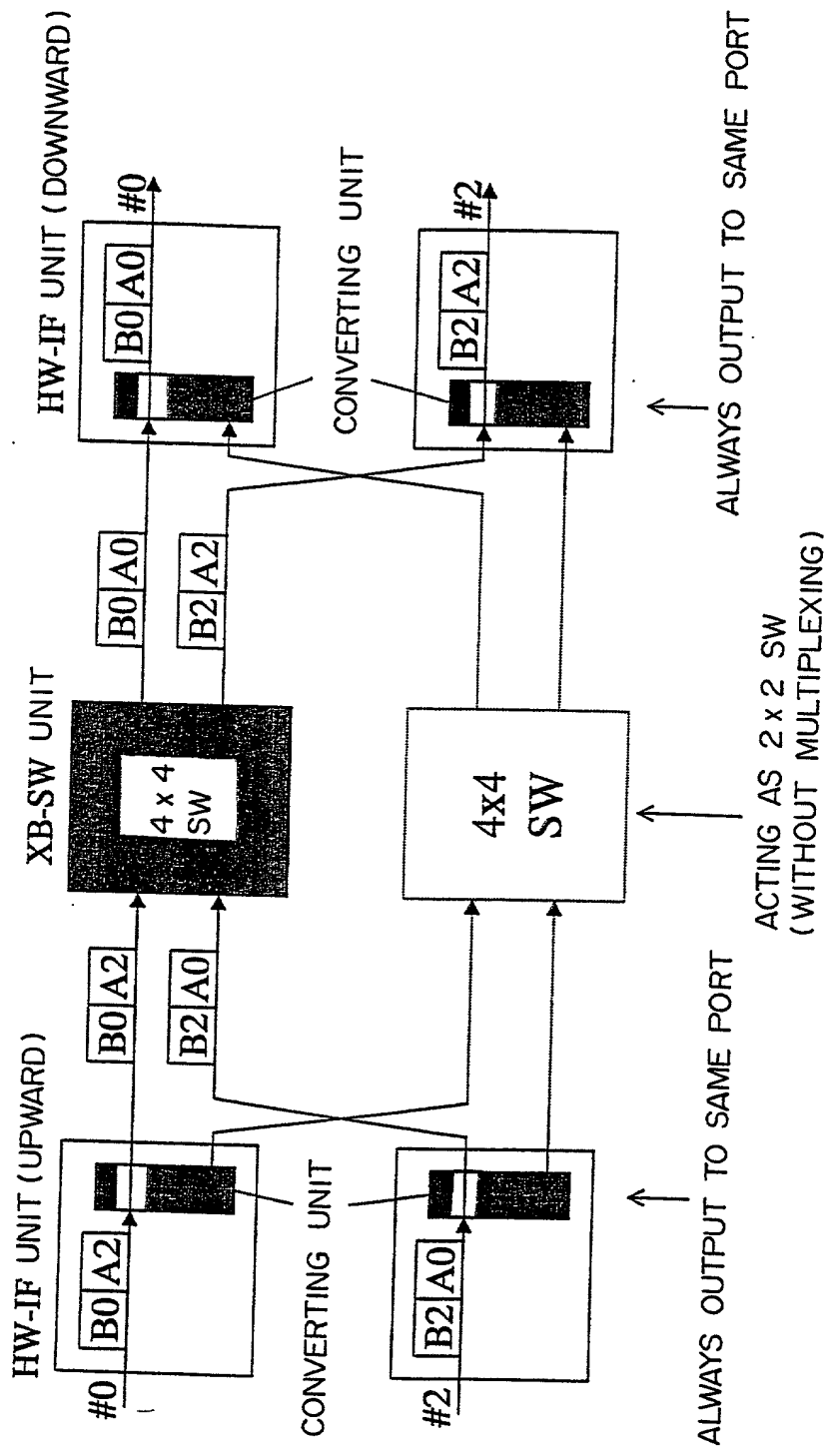


FIG. 8



1000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000  
 1000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000  
 1000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000  
 1000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000

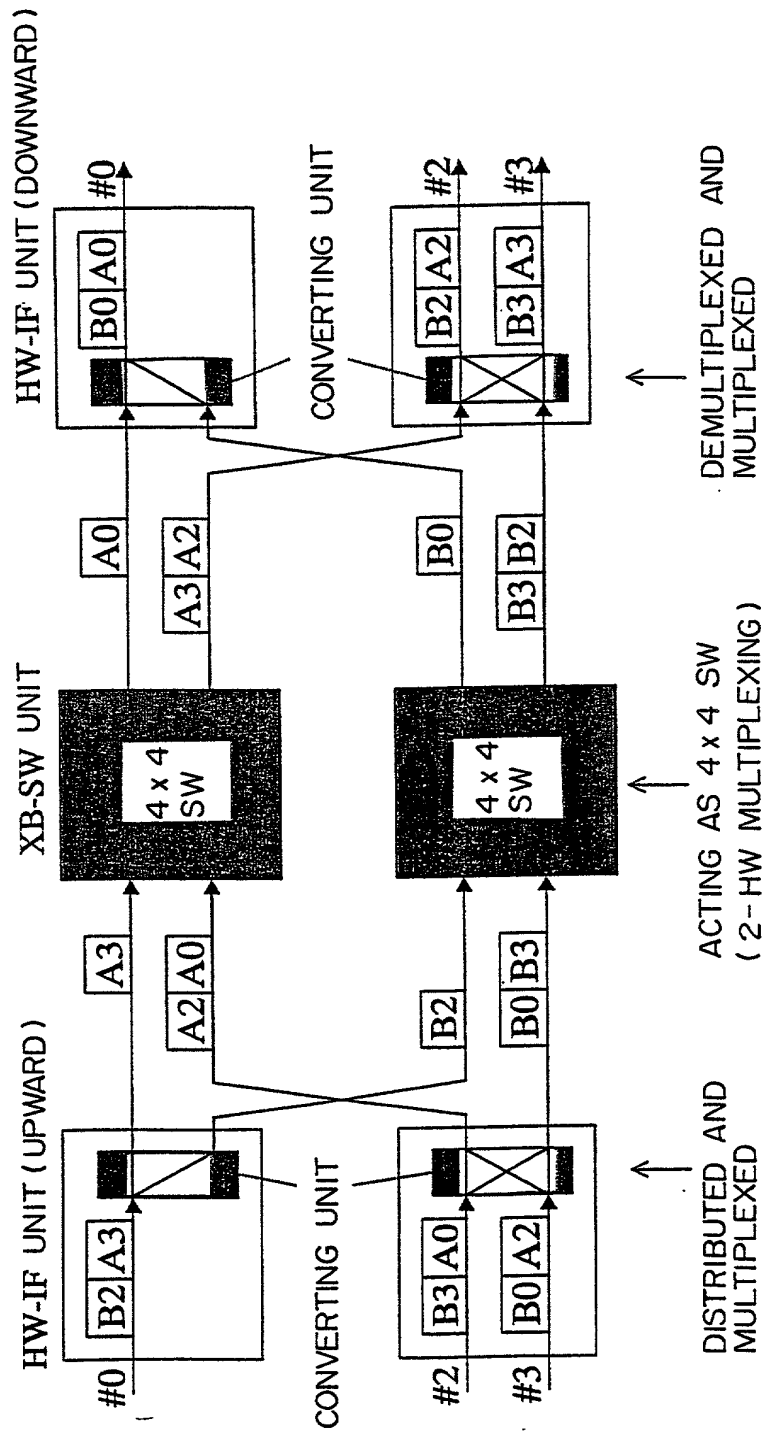


FIG. 9



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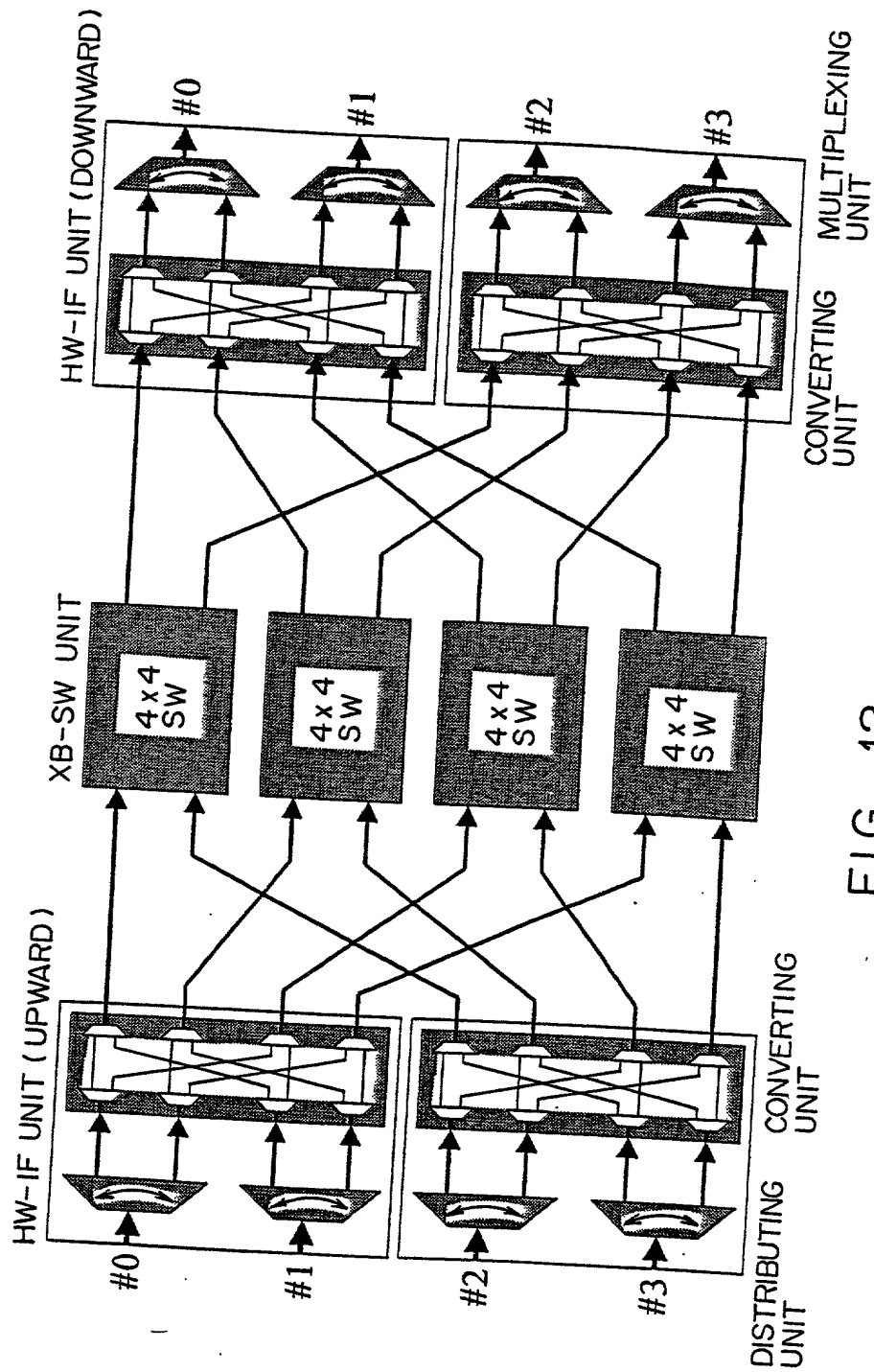


FIG. 12

1. The present invention relates to a data processing system, and more particularly to a data processing system for processing data in a parallel manner.

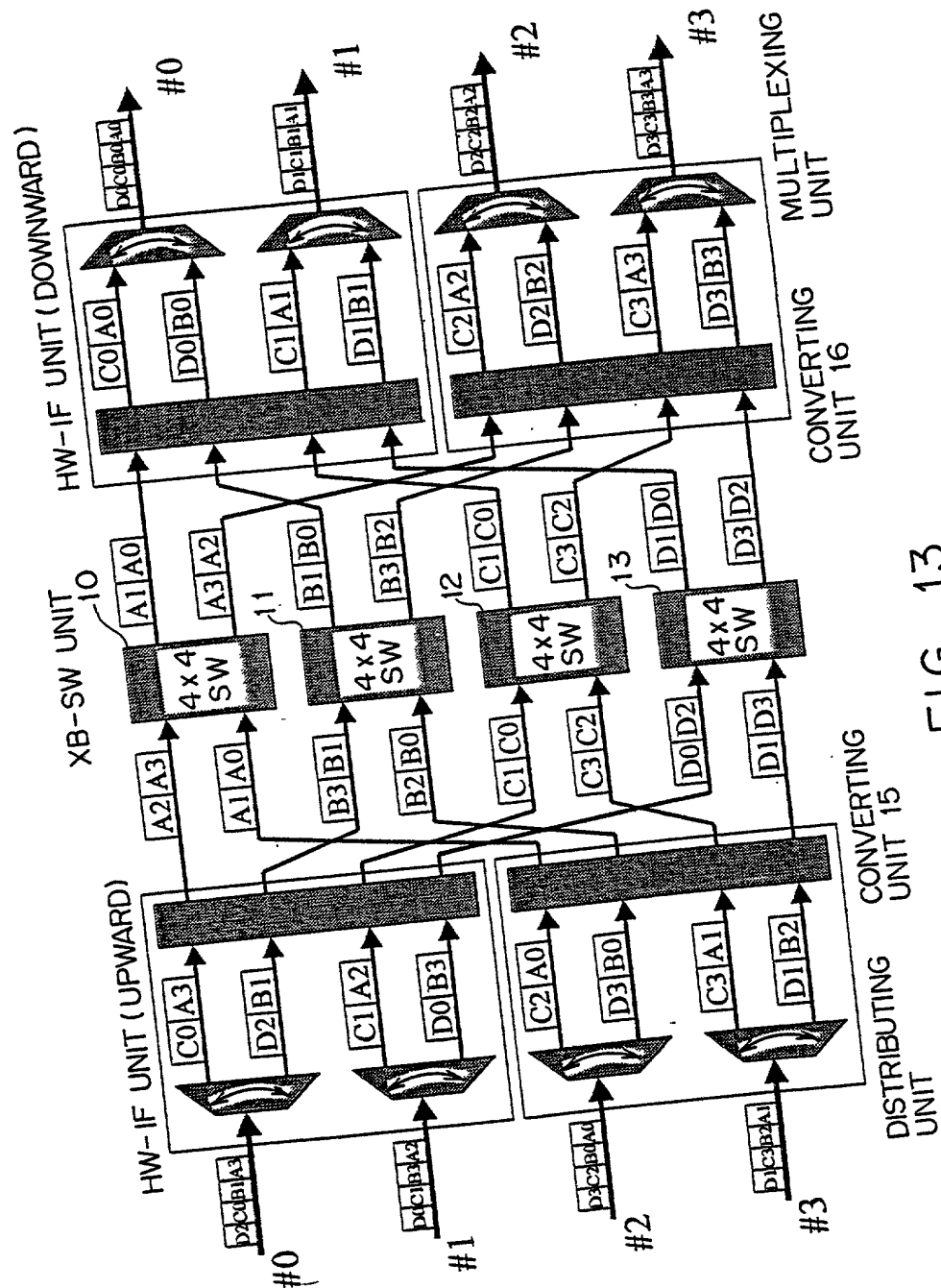


FIG. 13

1. The present invention relates to a switching system, and more particularly to a switching system for a multi-processor system.

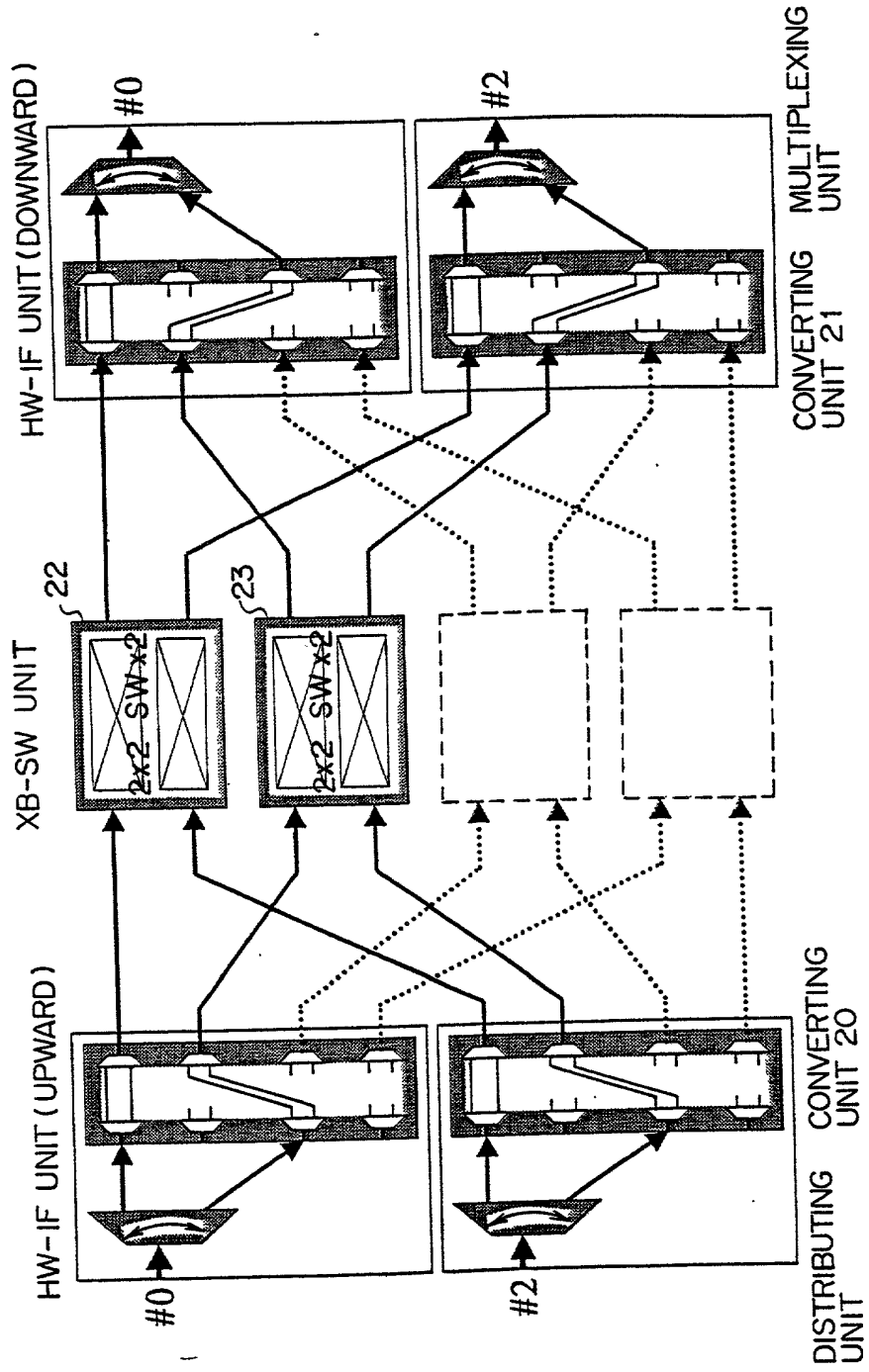


FIG. 14

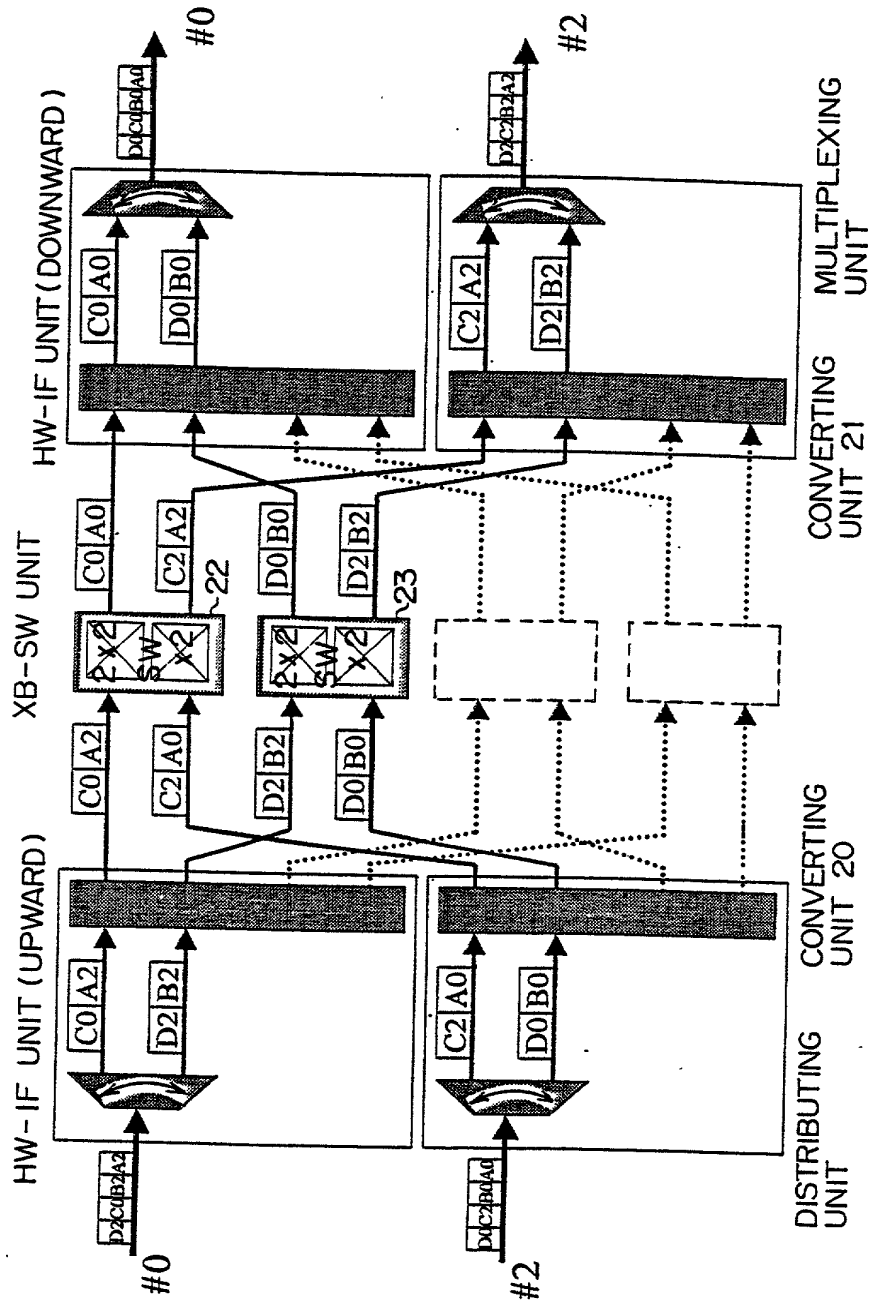


FIG. 15













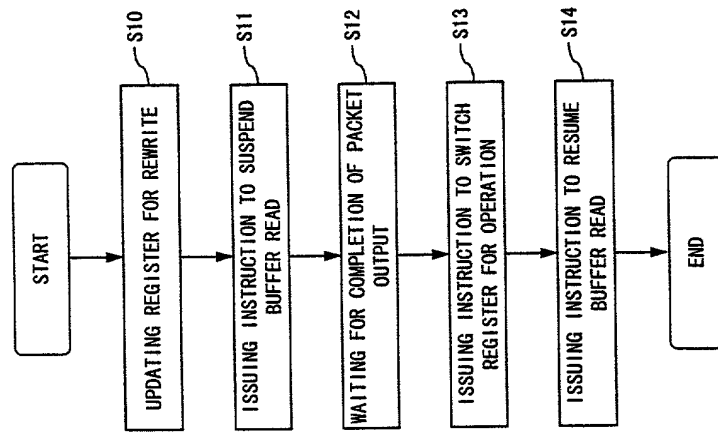


FIG. 21



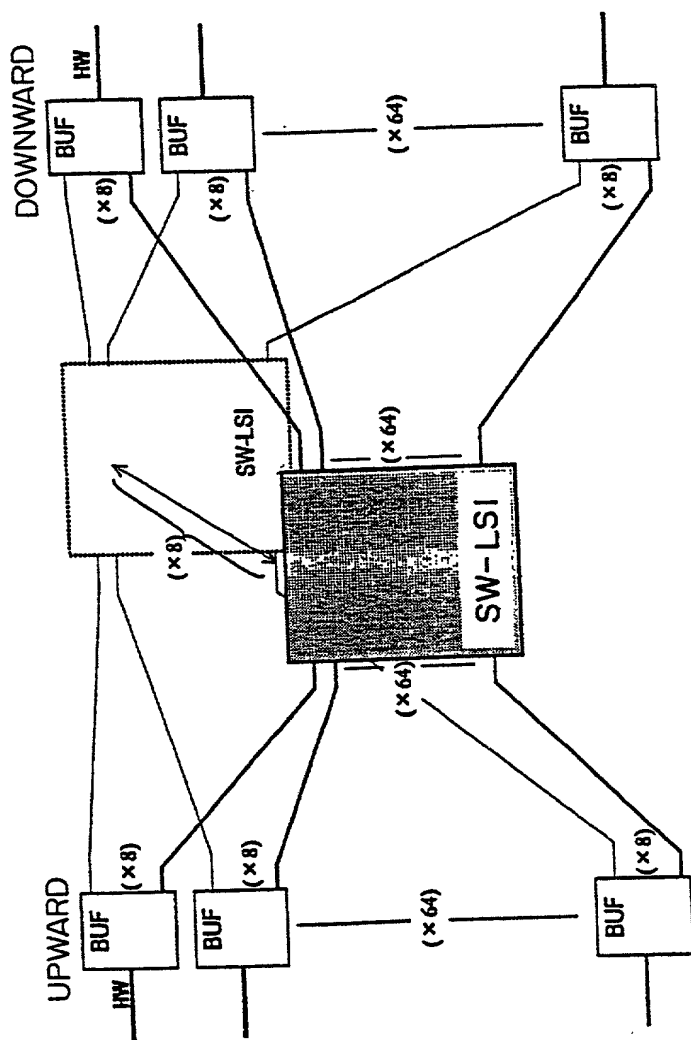
[illegible]

FIG. 23

[illegible]

FIG. 24



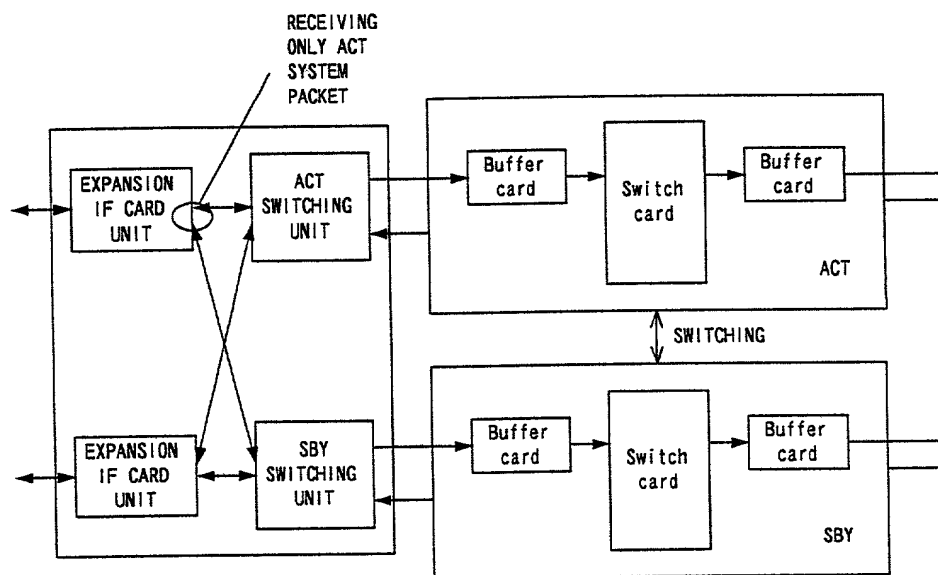


FIG. 25

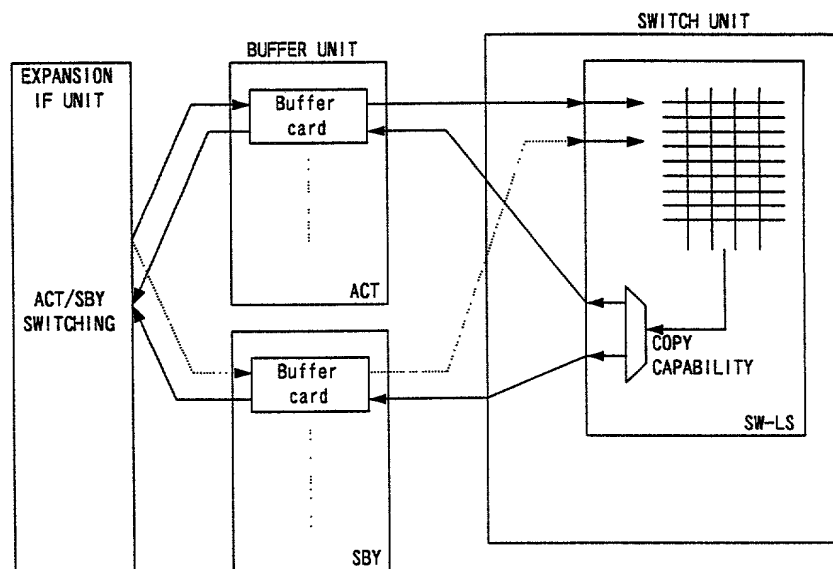


FIG. 26

1. The present invention relates to a data processing system, and more particularly to a data processing system which includes a buffer card, a converting unit, and a switch unit.

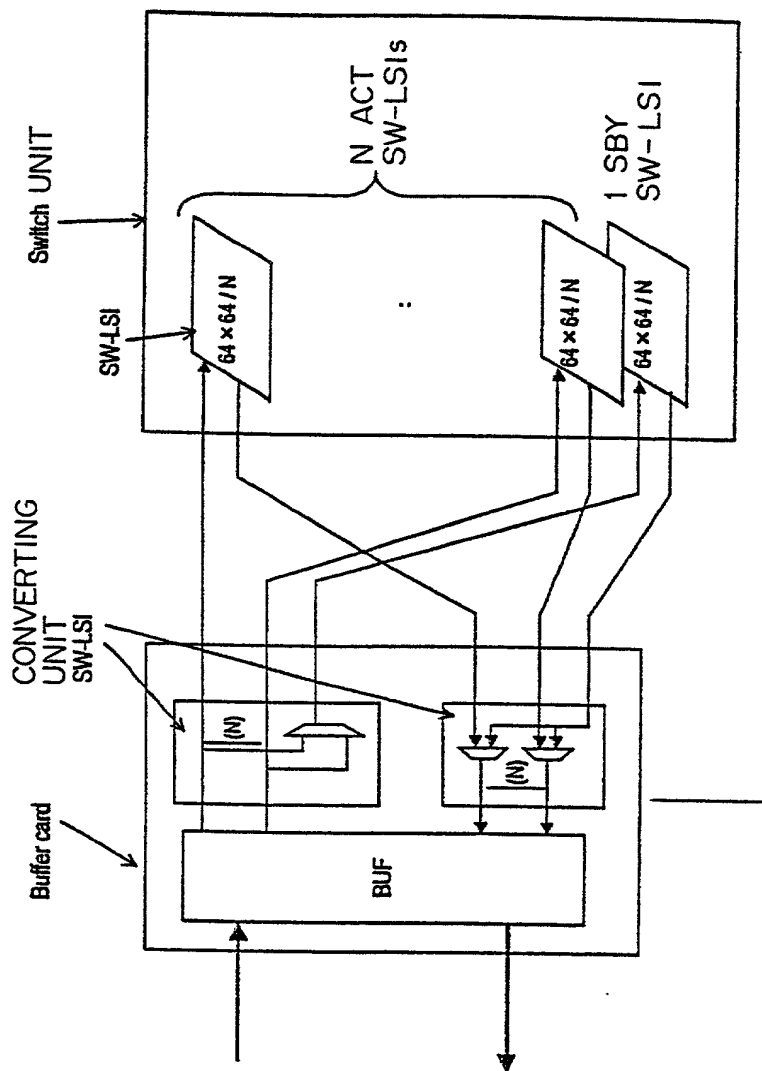


FIG. 27



The diagram illustrates the architecture of the HW Switch Unit. It consists of the following components and data paths:

- Input Hardware (HW):** HW#00 to HW#63. These are grouped into two sets of 64, each with a  $\times 64$  multiplier.
- Redundant Selector Unit:** Receives the input HW signals. It outputs to the ACT bit Filtering Unit.
- ACT bit Filtering Unit:** Receives data from the Redundant Selector Unit. It outputs to the Matrix Switch Unit.
- Matrix Switch Unit (64 x 128):** Receives data from the ACT bit Filtering Unit. It outputs to the Data Copy Unit.
- Data Copy Unit:** Receives data from the Matrix Switch Unit. It outputs to the Redundant Copy Unit.
- Redundant Copy Unit:** Receives data from the Data Copy Unit. It outputs to the final redundant data destinations.
- Output Redundant Data (RDD):** RDD#0 to RDD#7. These are grouped into two sets of 8, each with a  $\times 8$  multiplier.

### HW Switch Unit

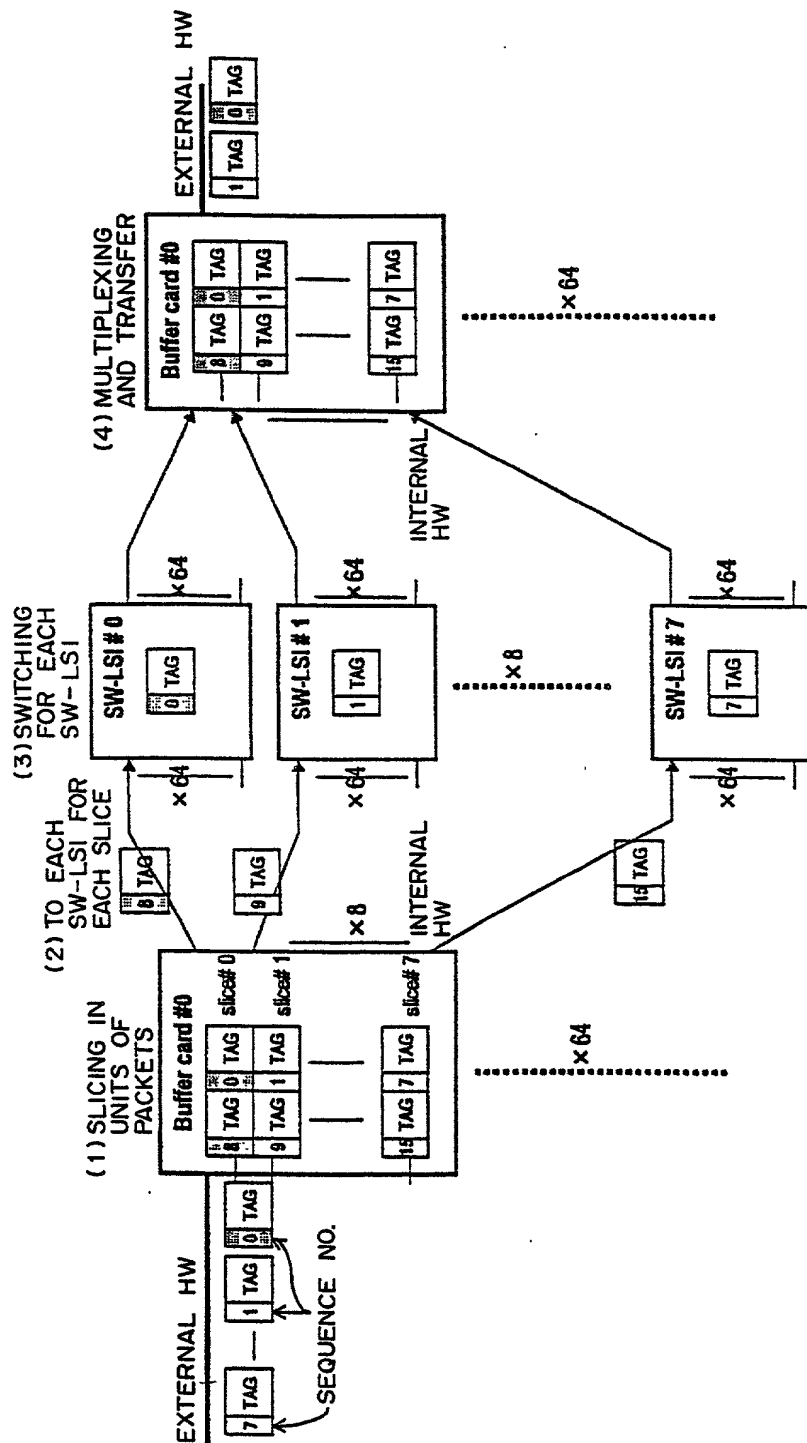
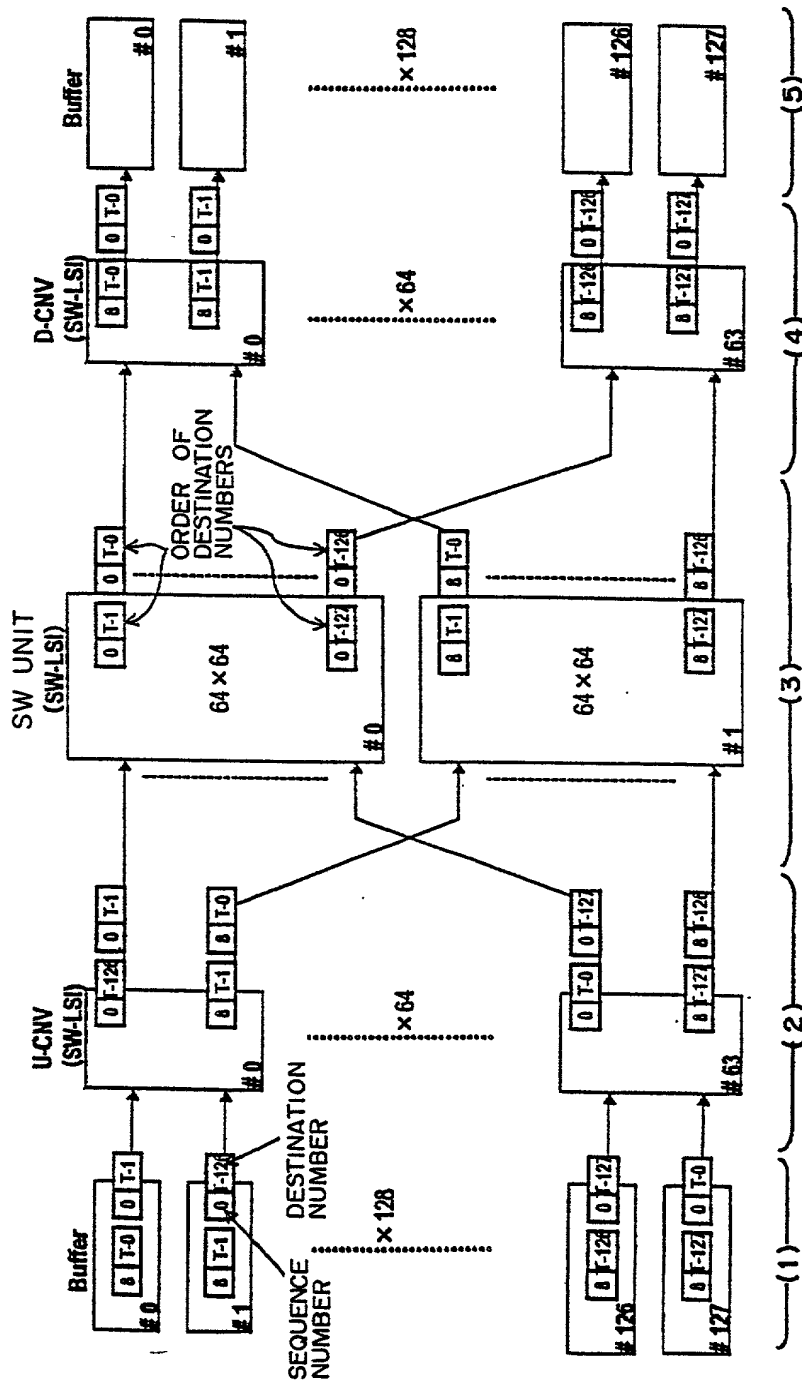


FIG. 30



(ONLY FIRST SLICE IS SHOWN)

FIG. 31

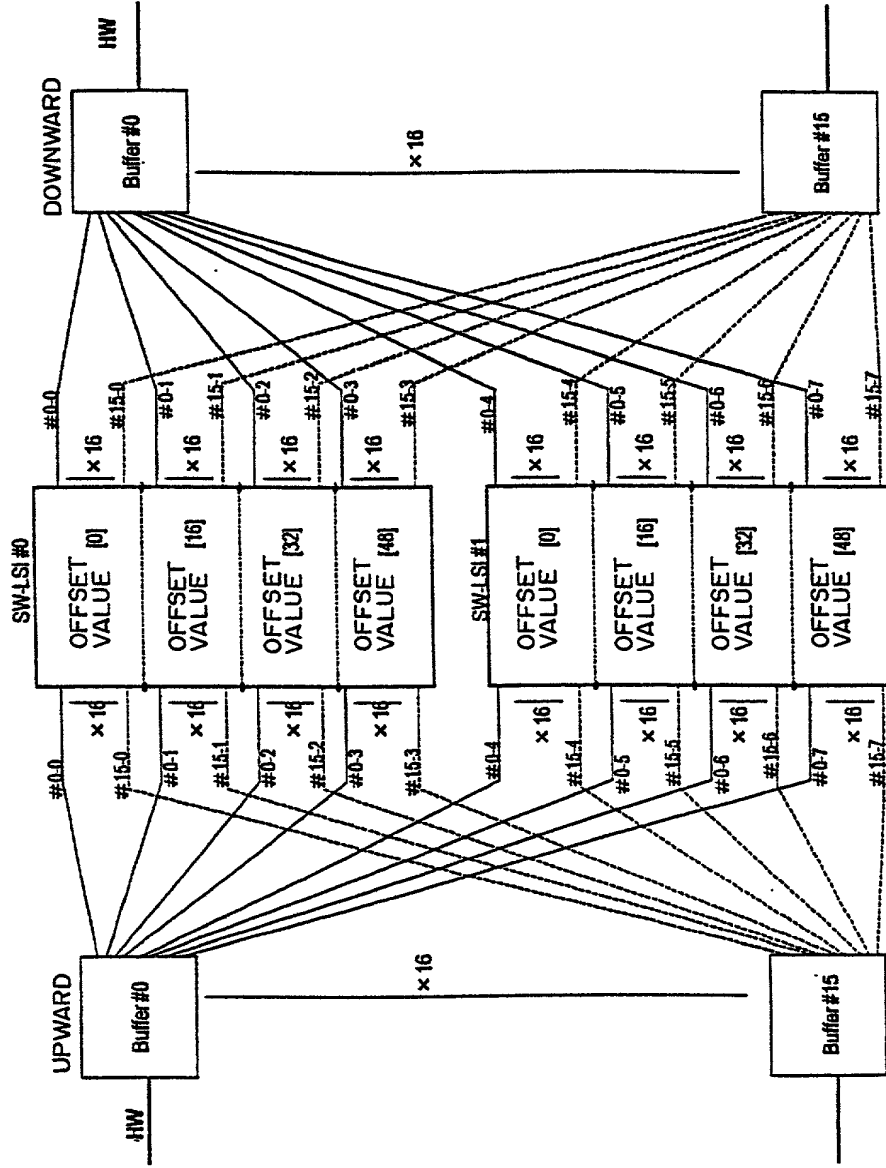


FIG. 32



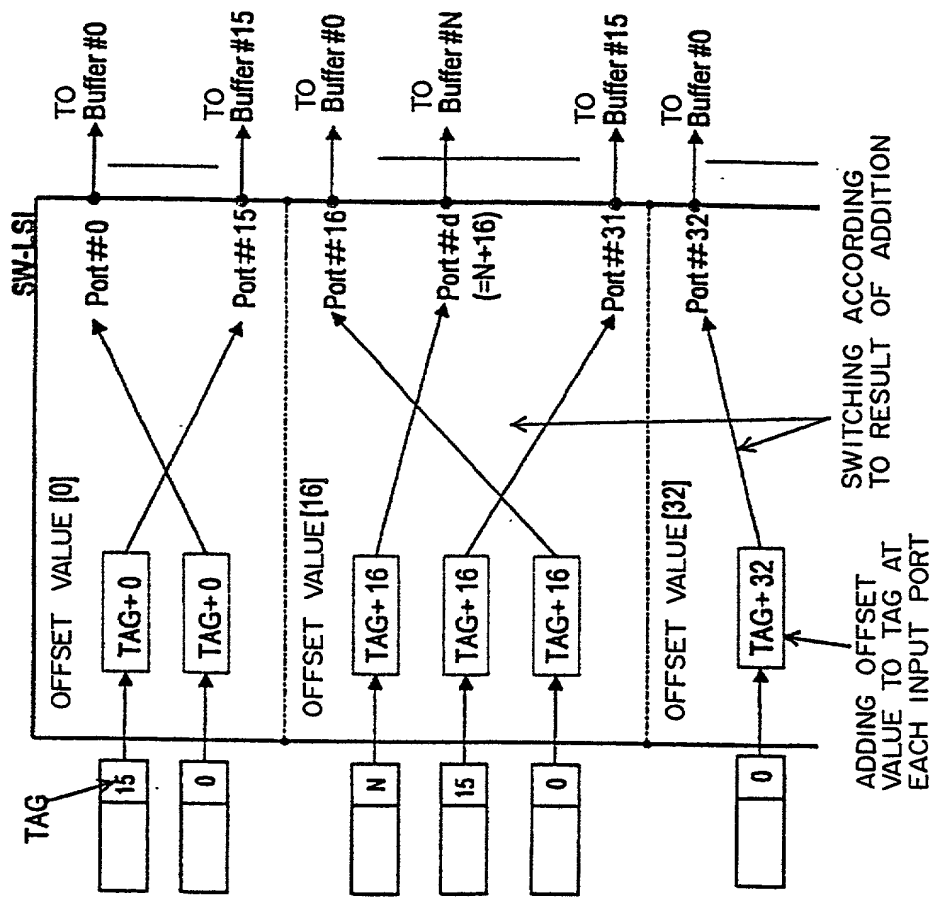


FIG. 33

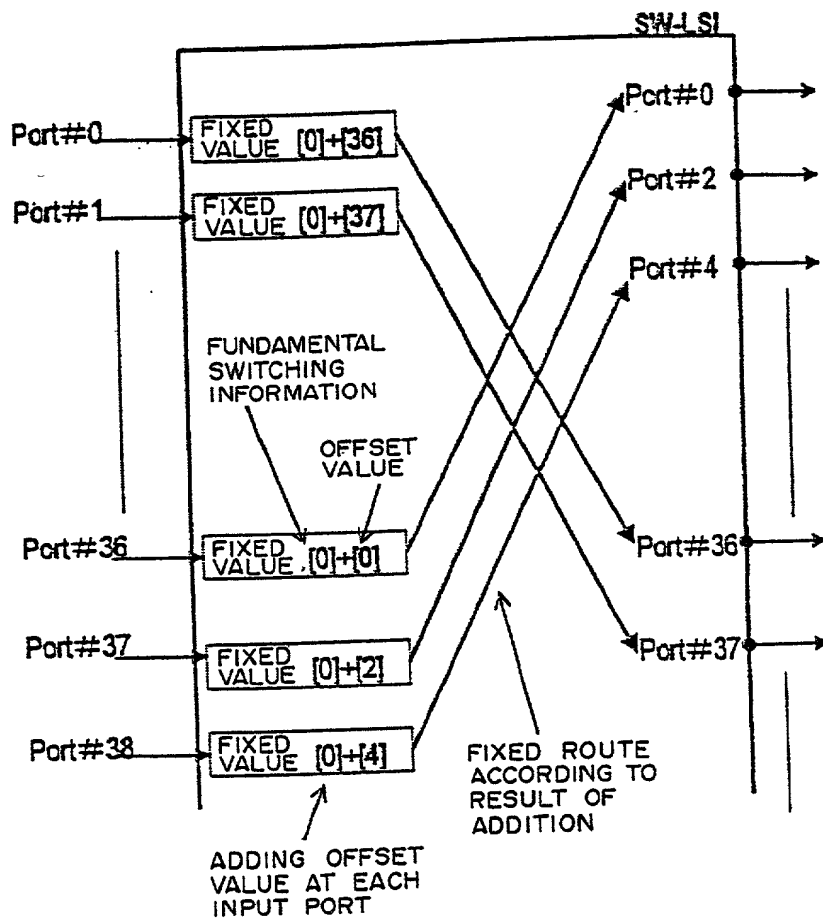


FIG. 34

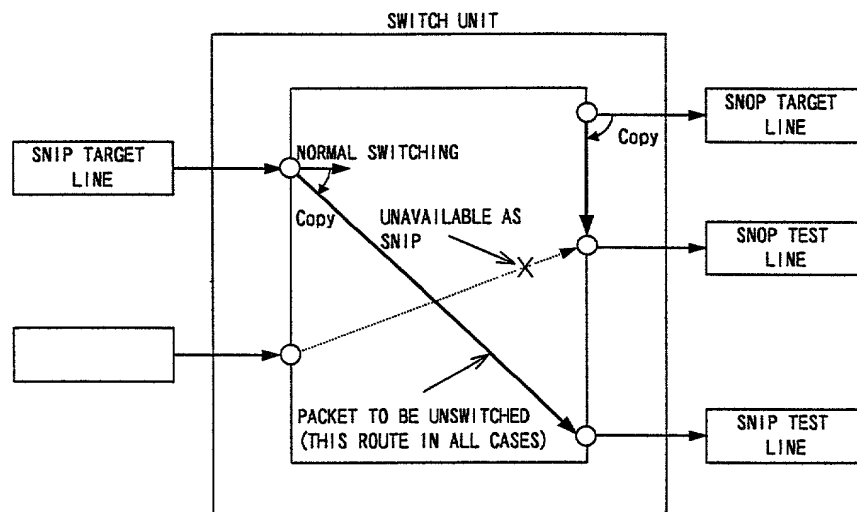


FIG. 35

FIG. 36 is a block diagram of a system architecture. The diagram shows a central processing unit (CPU) connected to a memory unit (MEM) and a storage unit (STG). The CPU is also connected to a network interface unit (NIU) and a system bus (SBUS). The MEM is connected to the SBUS and the STG. The NIU is connected to the SBUS and the CPU. The SBUS is connected to the CPU, MEM, and STG. The CPU is connected to the NIU and the SBUS. The MEM is connected to the SBUS and the STG. The NIU is connected to the SBUS and the CPU. The SBUS is connected to the CPU, MEM, and STG.

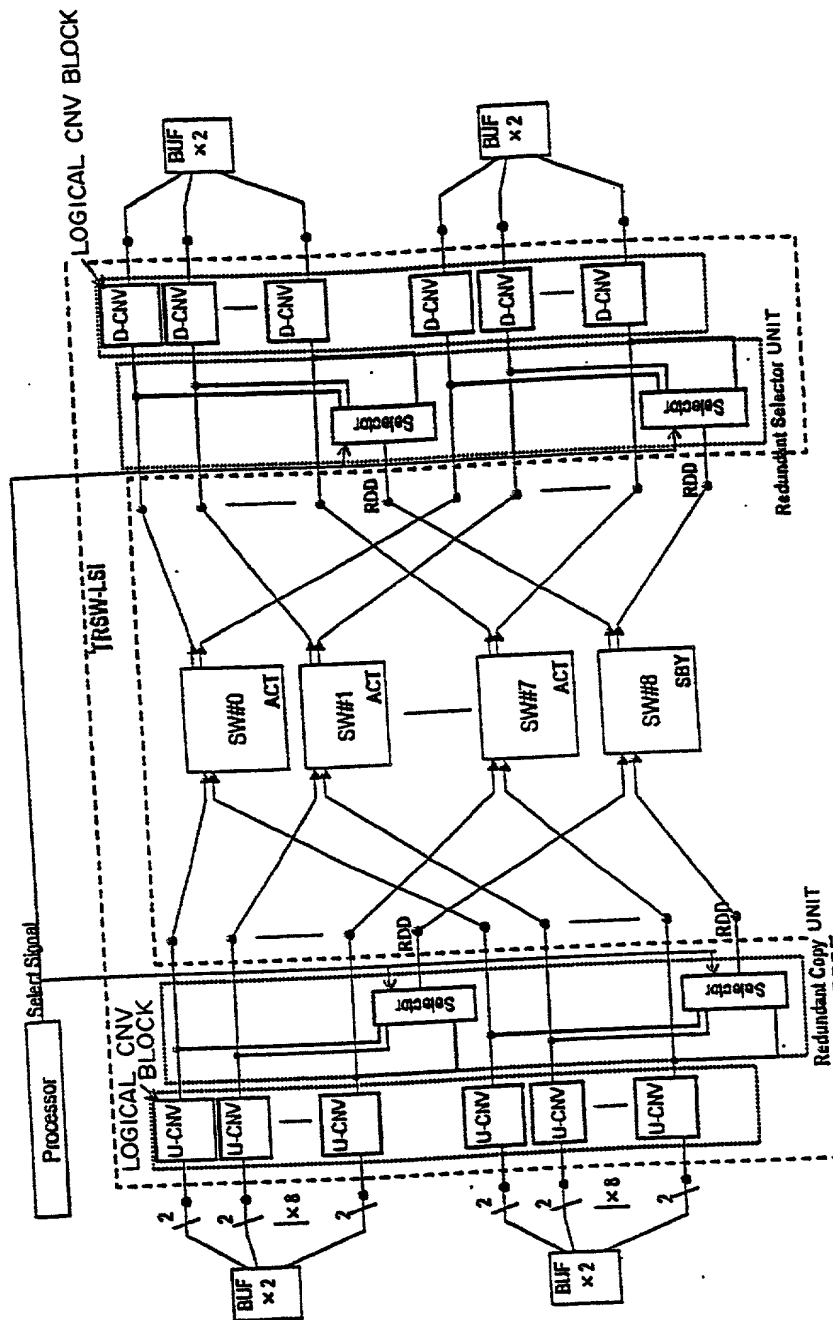


FIG. 36

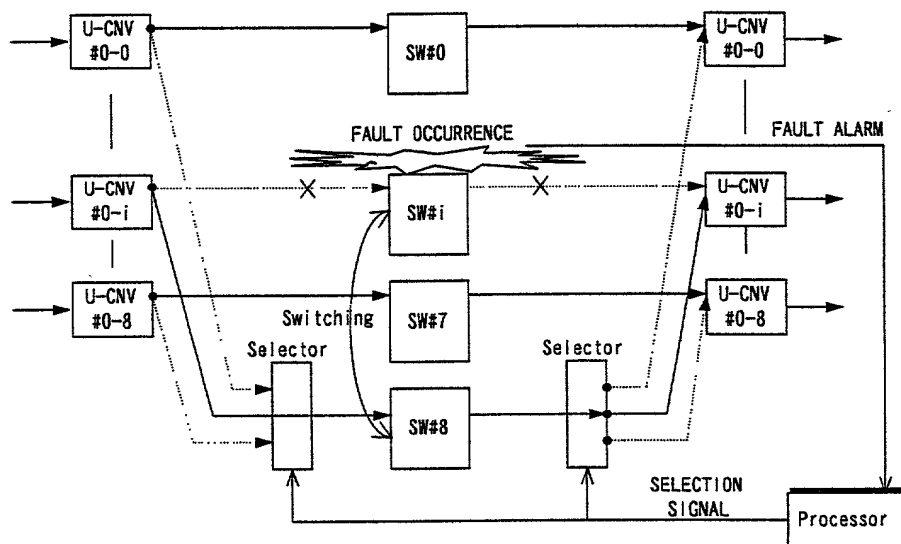


FIG. 37









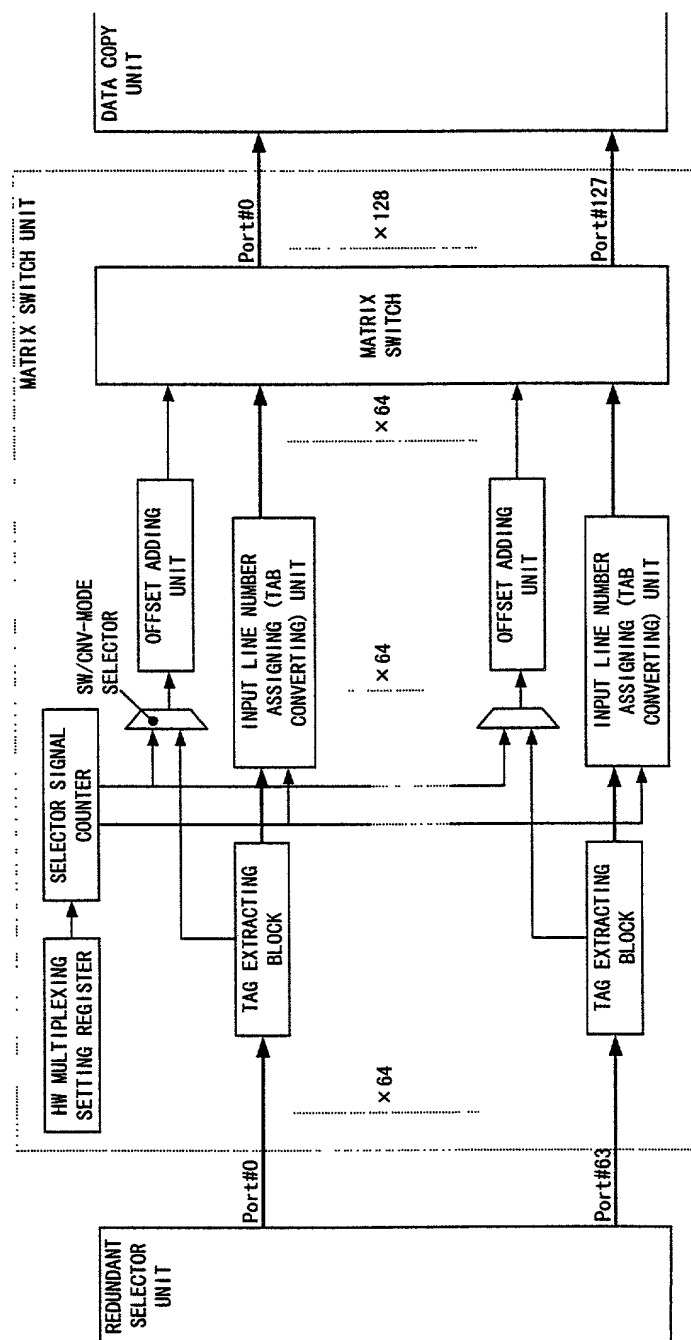


FIG. 41

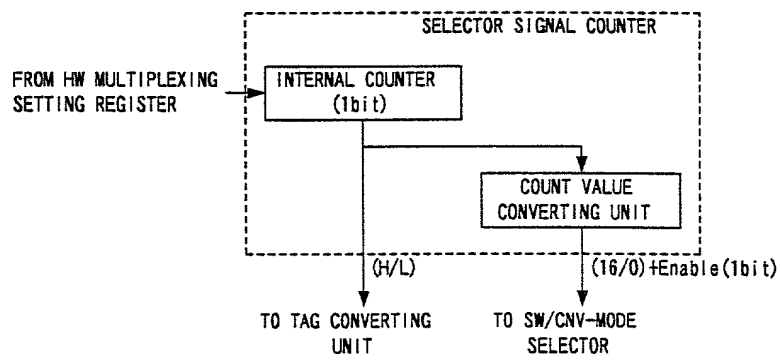


FIG. 42

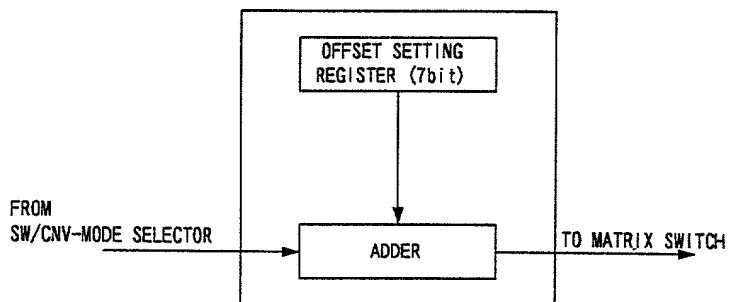


FIG. 43

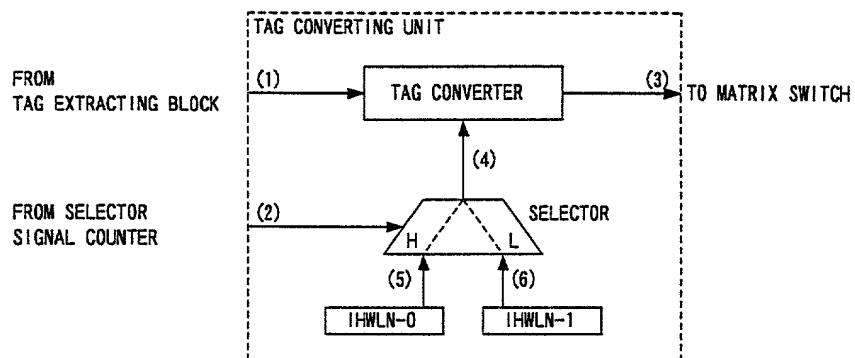


FIG. 44

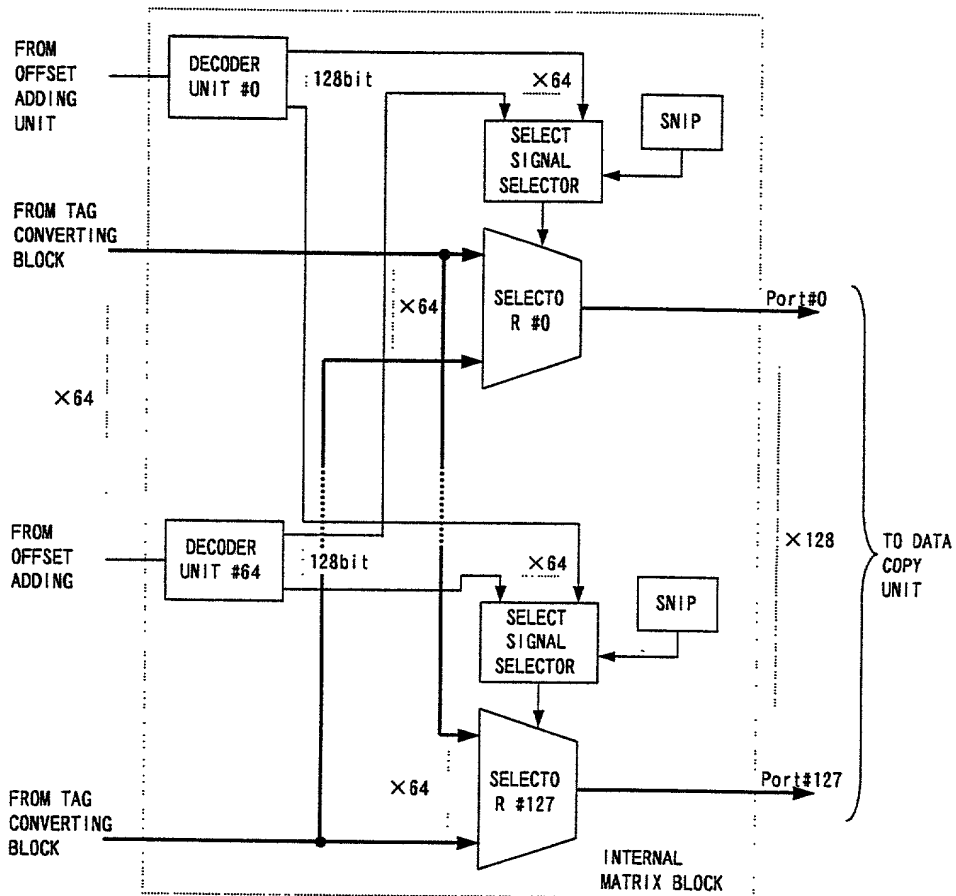


FIG. 45

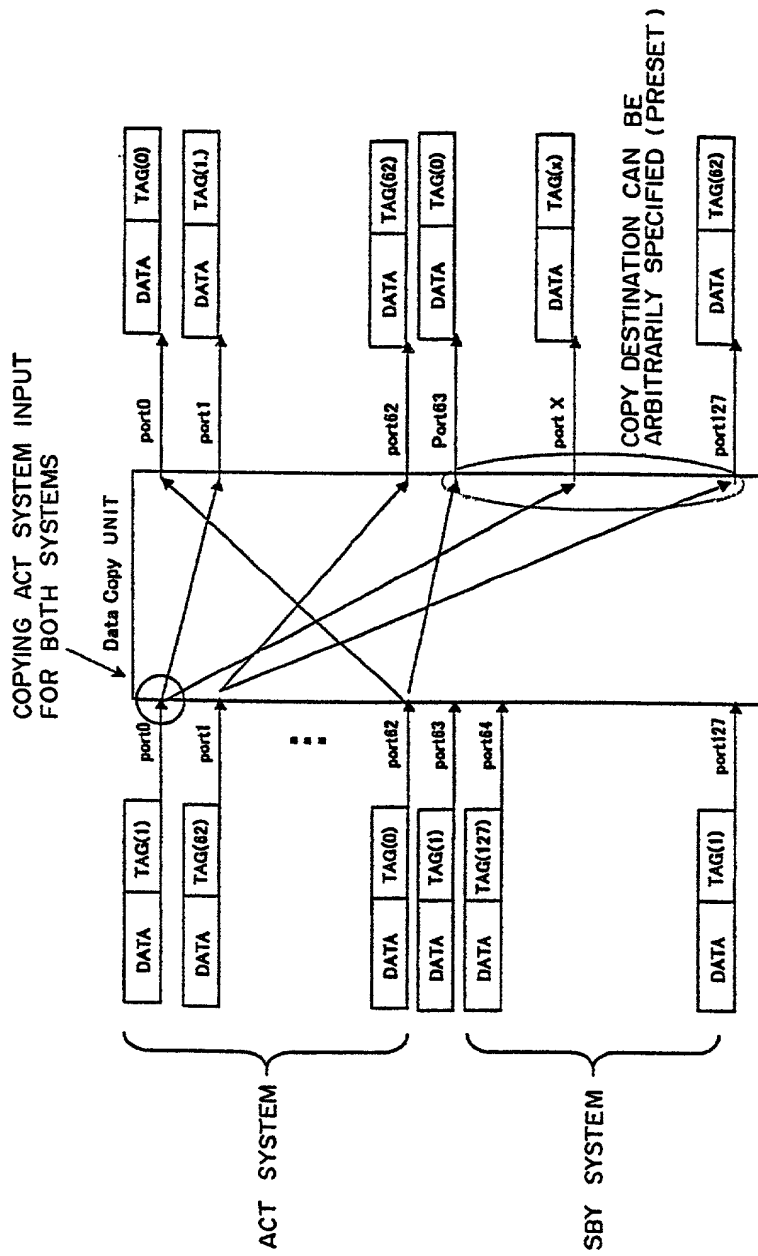


FIG. 46

The diagram illustrates the internal architecture of the Data Copy Unit. It is divided into two main functional areas by dashed lines: **COPY DESTINATION SETTING** and **SELECTOR Enable SETTING**.

- COPY DESTINATION SETTING:** This section contains three multiplexers. Each multiplexer has two inputs: one from a **Register** and another from a **FIFO** (FIFO#0, FIFO#1, and FIFO#127). The outputs of these multiplexers are connected to **port#0**, **port#1**, and **port#127** respectively. A **Data Copy Selector** is shown as a large block that receives **port#0**, **port#1**, and **port#127** as inputs. It has a **Register** and a **FIFO#127** connected to it. The output of the **Data Copy Selector** is connected to **port#63**.
- SELECTOR Enable SETTING:** This section contains a **Register** that receives **port#0** as input. Its output is connected to **port#63**.
- HW MULTIPLEXING SYSTEM INFORMATION:** This block is connected to the **HW MULTIPLEXING COUNTER** and the **HW MULTIPLEXING SELECTOR**. The **HW MULTIPLEXING COUNTER** is connected to the **HW MULTIPLEXING SELECTOR**, which in turn is connected to the **HW MULTIPLEXING SYSTEM INFORMATION**.

Connections and data flow are indicated by arrows. The **Data Copy Unit** is connected to the **Data Copy Selector** via **port#0**, **port#1**, and **port#127**. The **Data Copy Selector** is connected to the **HW MULTIPLEXING SYSTEM INFORMATION** via **port#63**. The **HW MULTIPLEXING SYSTEM INFORMATION** is connected to the **HW MULTIPLEXING SELECTOR** via **port#63**. The **HW MULTIPLEXING SELECTOR** is connected to the **HW MULTIPLEXING COUNTER** via **port#63**. The **HW MULTIPLEXING COUNTER** is connected to the **HW MULTIPLEXING SYSTEM INFORMATION** via **port#63**.

FIG. 47

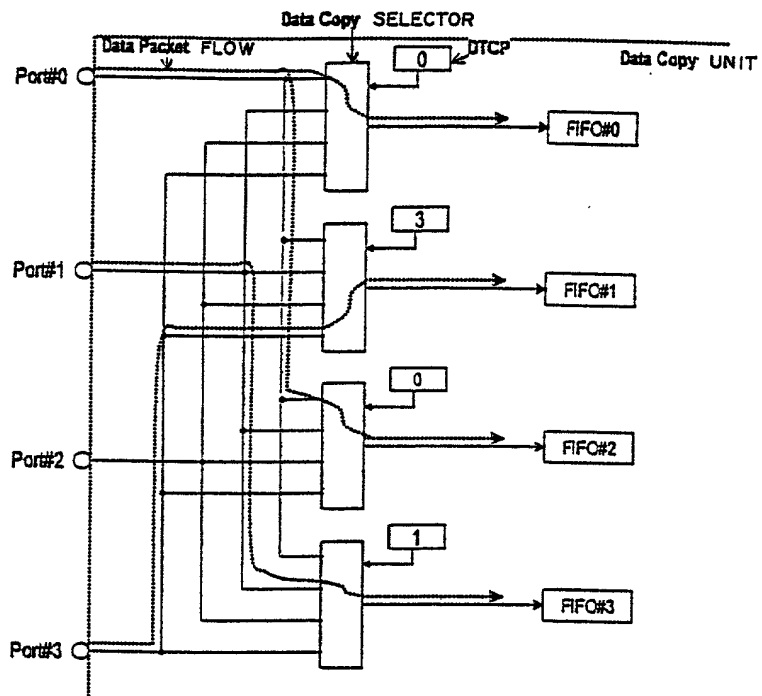


FIG. 48



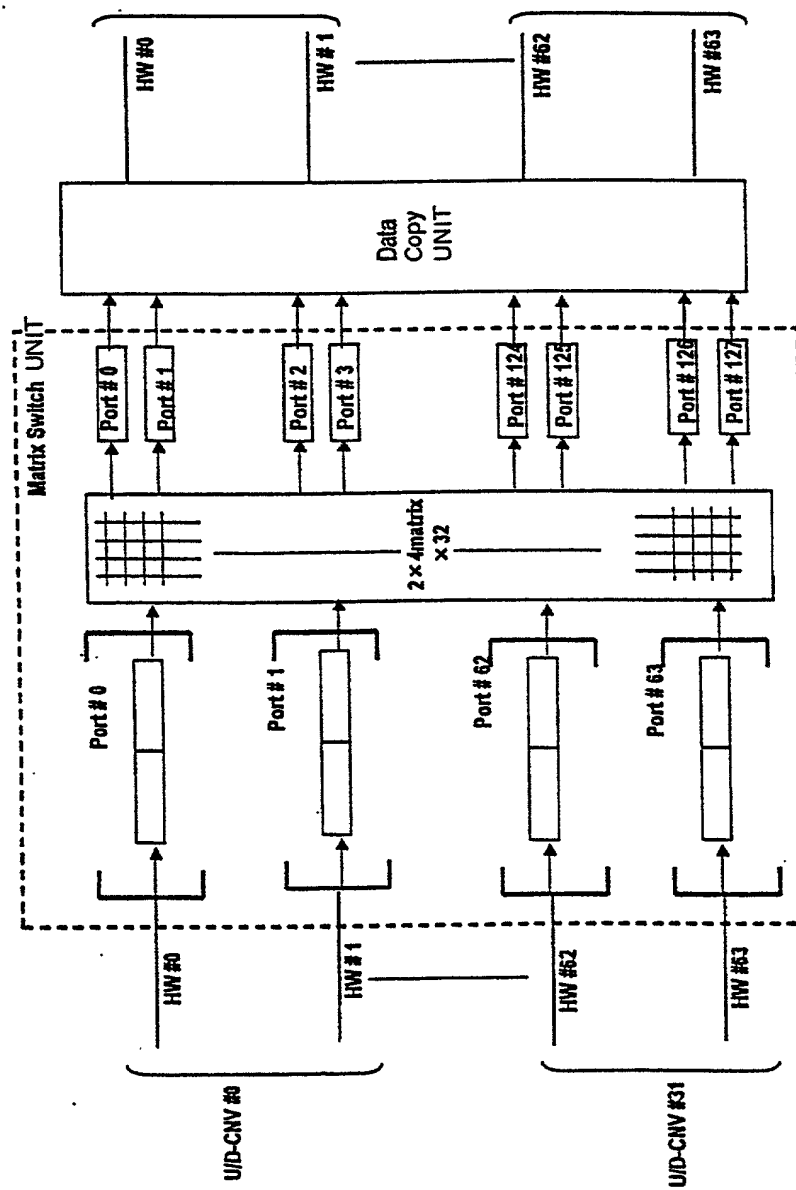


FIG. 49

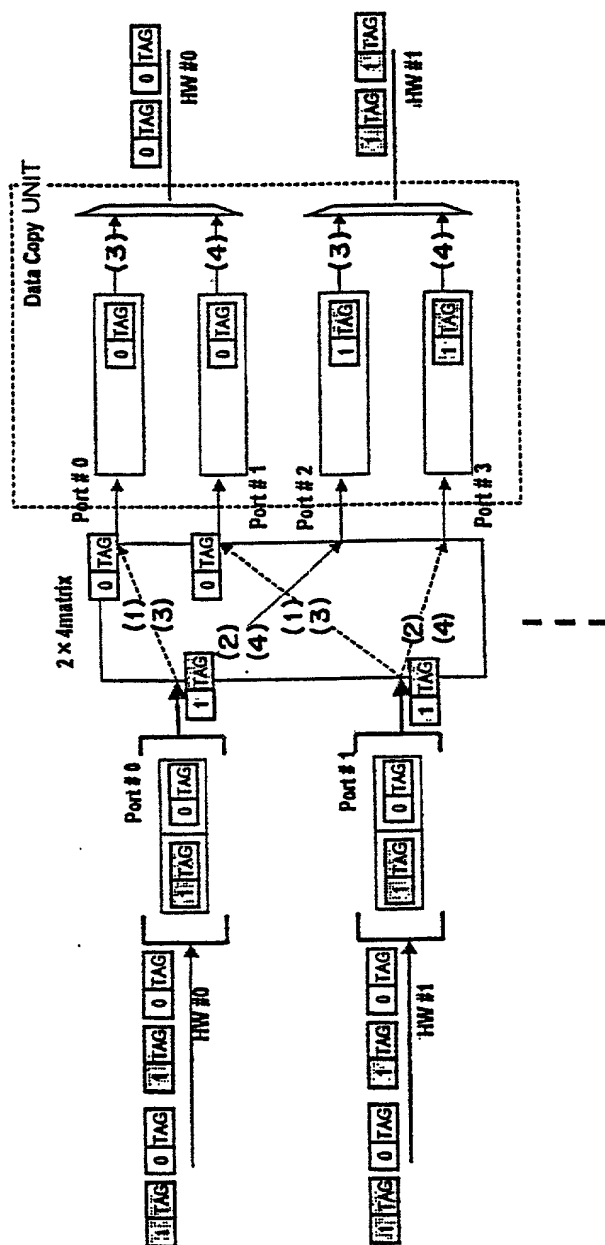


FIG. 50

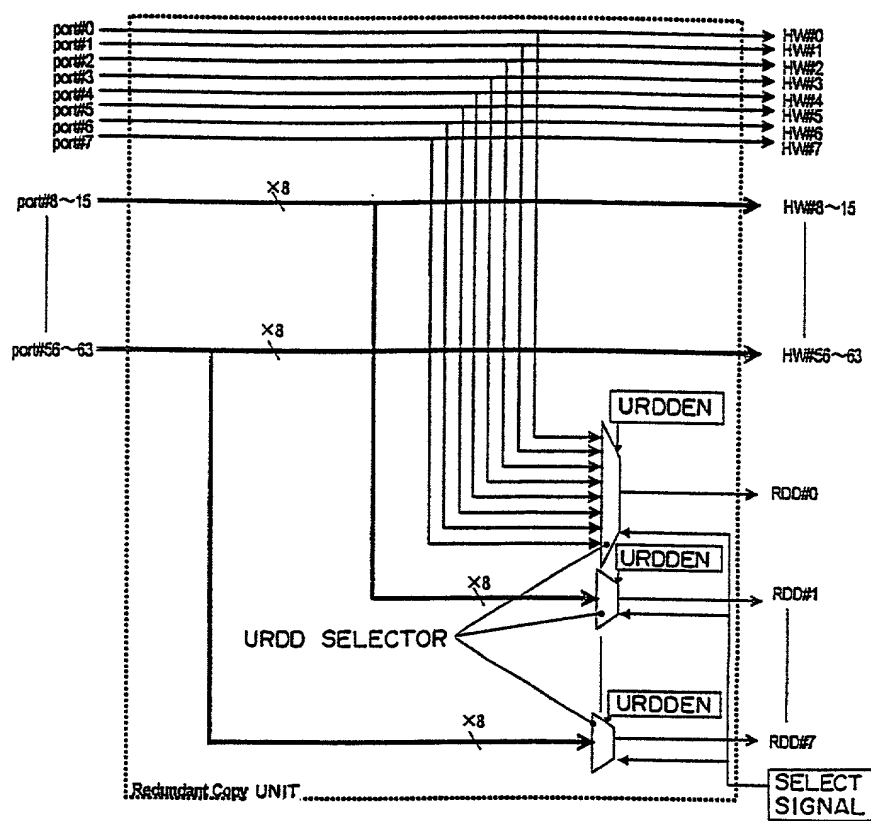


FIG. 51

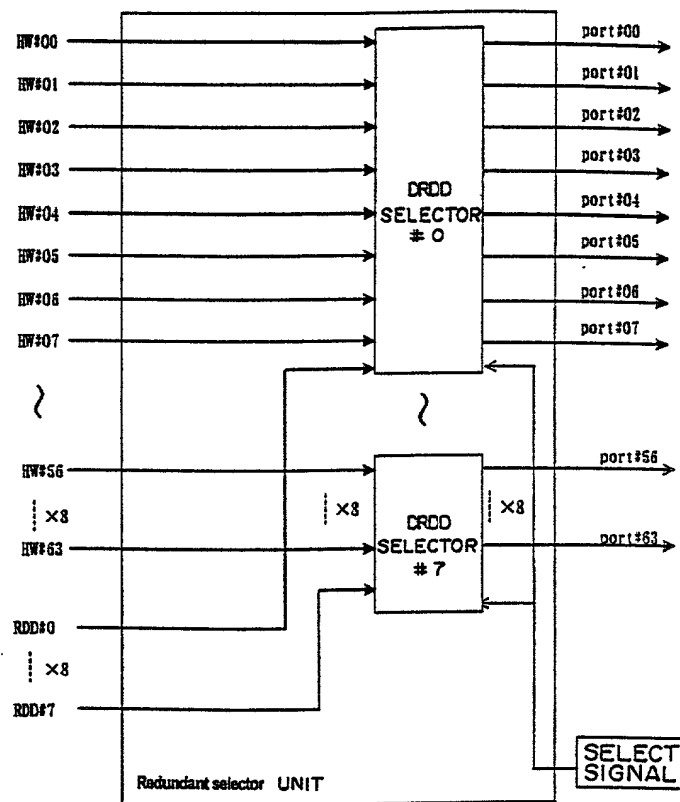


FIG. 52

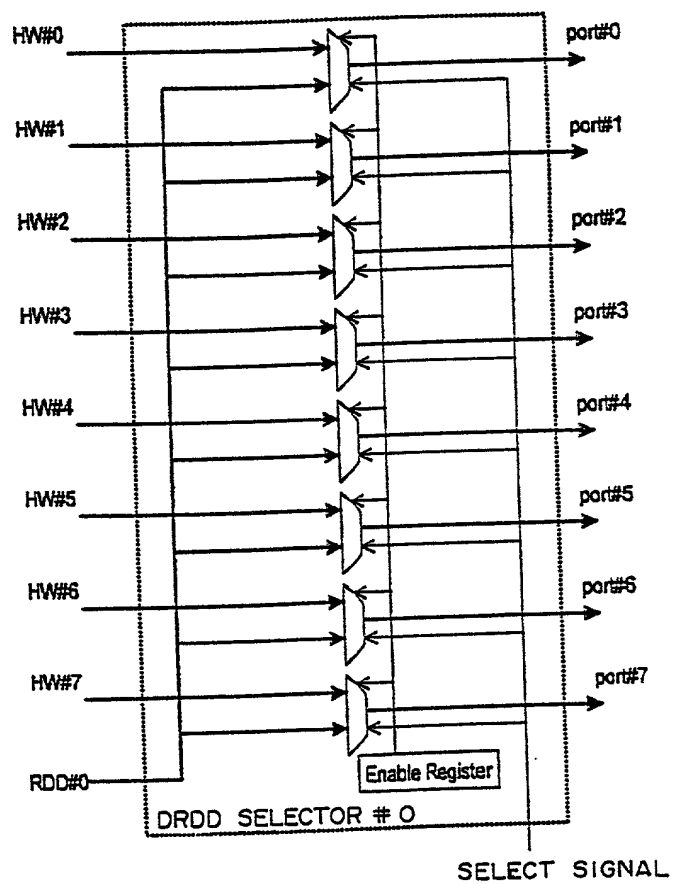


FIG. 53

TABLE 1 SW-CARD CONFIGURATION BY SWITCH CAPACITY

MAXIMUM SWITCH CAPACITY (bps)	NUMBER OF SWITCH CARDS (EXCLUDING REDUNDANT SYSTEM)	
2.56T	8	
1.28T	4	
640G	2	
320G	1	

FIG. 54 A

TABLE 2 BUFFER CARD TYPE

Buffer-Card CAPACITY (bps)	NUMBER OF ACCOMMODATED LINES	NUMBER OF TRSW-LSIs (DNV-mode)
160G	8	2
80G	4	2
40G	2	1
20G	1	1

FIG. 54 B

TABLE 3 SW-CARD CONFIGURATION AND BUFFER CARD ALLOWED

SW-CARD CONFIGURATION (NUMBER OF CARDS)	BUFFER CARD ALLOWED	
8	160G, 80G, 40G, 20G	
4	80G, 40G, 20G	
2	40G, 20G	
1	20G	

FIG. 54 C

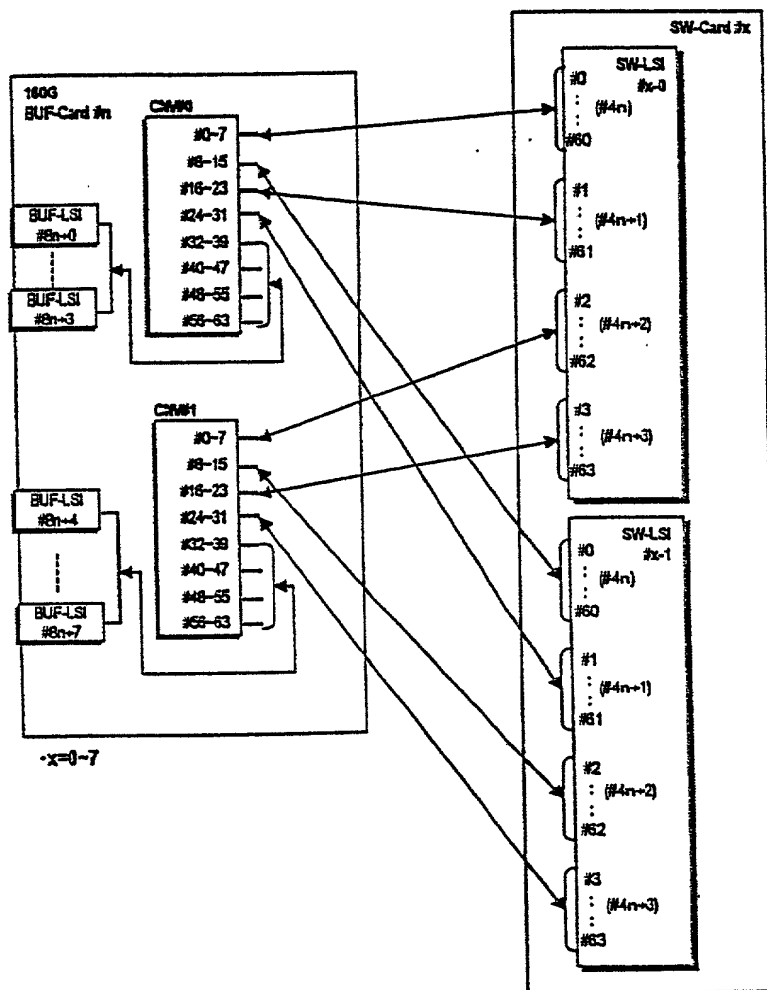


FIG. 55

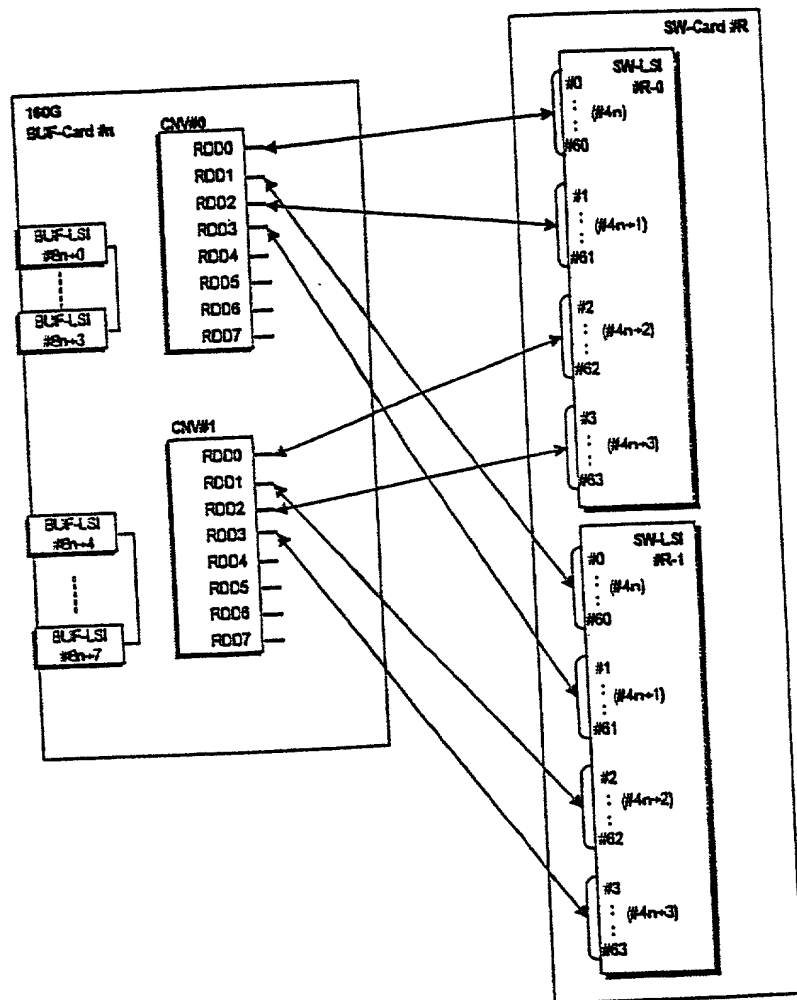


FIG. 56



TABLE 4 CNV EXTERNAL TERMINAL CONNECTION CONFIGURATION

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
00	SW#0	0	4n[4n+2]
01	SW#1	0	4n[4n+2]
02	SW#2	0	4n[4n+2]
03	SW#3	0	4n[4n+2]
04	SW#4	0	4n[4n+2]
05	SW#5	0	4n[4n+2]
06	SW#6	0	4n[4n+2]
07	SW#7	0	4n[4n+2]
08	SW#0	1	4n[4n+2]
09	SW#1	1	4n[4n+2]
10	SW#2	1	4n[4n+2]
11	SW#3	1	4n[4n+2]
12	SW#4	1	4n[4n+2]

FIG. 57

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
13	SW#5	1	4n [4n+2]
14	SW#6	1	4n [4n+2]
15	SW#7	1	4n [4n+2]
16	SW#0	0	4n+1 [4n+3]
17	SW#1	0	4n+1 [4n+3]
18	SW#2	0	4n+1 [4n+3]
19	SW#3	0	4n+1 [4n+3]
20	SW#4	0	4n+1 [4n+3]
21	SW#5	0	4n+1 [4n+3]
22	SW#6	0	4n+1 [4n+3]
23	SW#7	0	4n+1 [4n+3]
24	SW#0	1	4n+1 [4n+3]
25	SW#1	1	4n+1 [4n+3]
26	SW#2	1	4n+1 [4n+3]
27	SW#3	1	4n+1 [4n+3]
28	SW#4	1	4n+1 [4n+3]
29	SW#5	1	4n+1 [4n+3]
30	SW#6	1	4n+1 [4n+3]
31	SW#7	1	4n+1 [4n+3]
32	BUF#n	8n [8n+4]	0
33	BUF#n	8n [8n+4]	1
34	BUF#n	8n [8n+4]	2
35	BUF#n	8n [8n+4]	3
36	BUF#n	8n [8n+4]	4
37	BUF#n	8n [8n+4]	5
38	BUF#n	8n [8n+4]	6
39	BUF#n	8n [8n+4]	7
40	BUF#n	8n+1 [8n+5]	0
41	BUF#n	8n+1 [8n+5]	1
42	BUF#n	8n+1 [8n+5]	2
43	BUF#n	8n+1 [8n+5]	3
44	BUF#n	8n+1 [8n+5]	4
45	BUF#n	8n+1 [8n+5]	5
46	BUF#n	8n+1 [8n+5]	6
47	BUF#n	8n+1 [8n+5]	7
48	BUF#n	8n+2 [8n+6]	0
49	BUF#n	8n+2 [8n+6]	1
50	BUF#n	8n+2 [8n+6]	2
51	BUF#n	8n+2 [8n+6]	3
52	BUF#n	8n+2 [8n+6]	4
53	BUF#n	8n+2 [8n+6]	5
54	BUF#n	8n+2 [8n+6]	6
55	BUF#n	8n+2 [8n+6]	7
56	BUF#n	8n+3 [8n+7]	0
57	BUF#n	8n+3 [8n+7]	1
58	BUF#n	8n+3 [8n+7]	2

FIG. 58

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
59	BUF#n	$8n+3 [8n+7]$	3
60	BUF#n	$8n+3 [8n+7]$	4
61	BUF#n	$8n+3 [8n+7]$	5
62	BUF#n	$8n+3 [8n+7]$	6
63	BUF#n	$8n+3 [8n+7]$	7
RDD 0	SW#R	0	$4n [4n+2]$
RDD 1	SW#R	1	$4n [4n+2]$
RDD 2	SW#R	0	$4n+1 [4n+3]$
RDD 3	SW#R	1	$4n+1 [4n+3]$
RDD 4	—	—	—
RDD 5	—	—	—
RDD 6	—	—	—
RDD 7	—	—	—

(\*) n: BUFFER CARD No. (0~7)  
 -: UNCONNECTED

FIG. 59





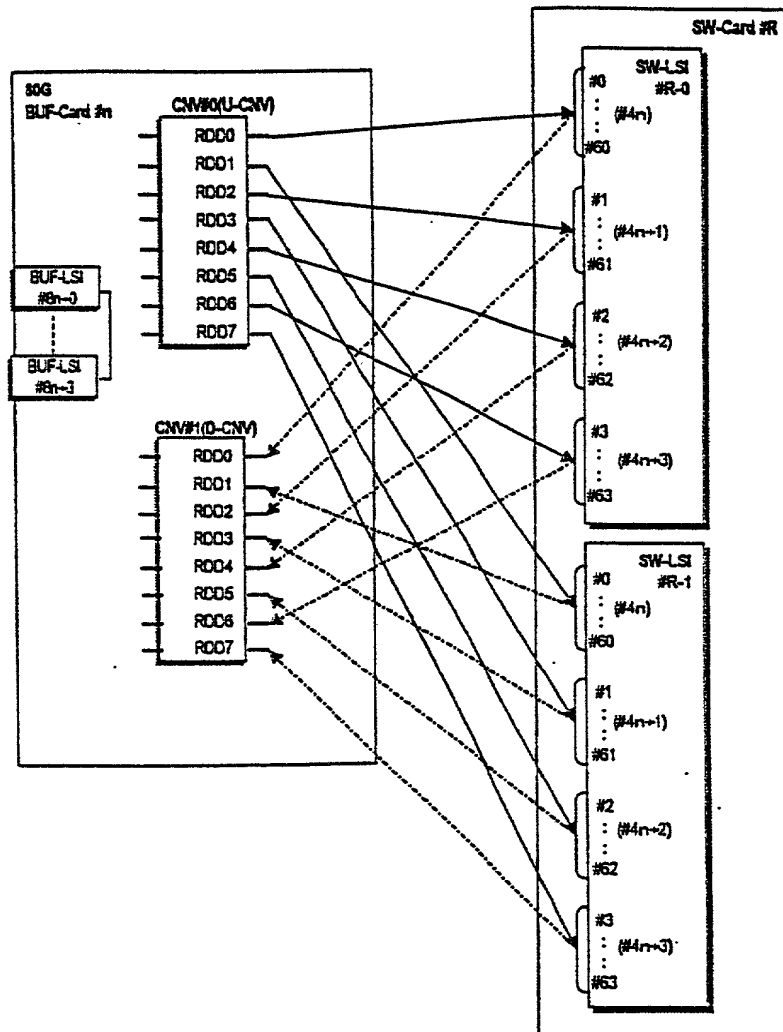


FIG. 62

TABLE 5 CNV EXTERNAL TERMINAL CONNECTION CONFIGURATION  
(CNV#0 INPUT AND CNV#1 OUTPUT)

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
00	—	—	—
01	—	—	—
02	—	—	—
03	—	—	—
04	—	—	—
05	—	—	—
06	—	—	—
07	—	—	—
08	—	—	—

FIG. 63

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
09	—	—	—
10	—	—	—
11	—	—	—
12	—	—	—
13	—	—	—
14	—	—	—
15	—	—	—
16	—	—	—
17	—	—	—
18	—	—	—
19	—	—	—
20	—	—	—
21	—	—	—
22	—	—	—
23	—	—	—
24	—	—	—
25	—	—	—
26	—	—	—
27	—	—	—
28	—	—	—
29	—	—	—
30	—	—	—
31	—	—	—
32	BUF#n	8n	0
33	BUF#n	8n	1
34	BUF#n	8n	2
35	BUF#n	8n	3
36	BUF#n	8n	4
37	BUF#n	8n	5
38	BUF#n	8n	6
39	BUF#n	8n	7
40	BUF#n	8n+1	0
41	BUF#n	8n+1	1
42	BUF#n	8n+1	2
43	BUF#n	8n+1	3
44	BUF#n	8n+1	4
45	BUF#n	8n+1	5
46	BUF#n	8n+1	6
47	BUF#n	8n+1	7
48	BUF#n	8n+2	0
49	BUF#n	8n+2	1
50	BUF#n	8n+2	2
51	BUF#n	8n+2	3
52	BUF#n	8n+2	4
53	BUF#n	8n+2	5
54	BUF#n	8n+2	6

FIG. 64



EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
55	BUF#n	8n+2	7
56	BUF#n	8n+3	0
57	BUF#n	8n+3	1
58	BUF#n	8n+3	2
59	BUF#n	8n+3	3
60	BUF#n	8n+3	4
61	BUF#n	8n+3	5
62	BUF#n	8n+3	6
63	BUF#n	8n+3	7
RDD 0	—	—	—
RDD 1	—	—	—
RDD 2	—	—	—
RDD 3	—	—	—
RDD 4	—	—	—
RDD 5	—	—	—
RDD 6	—	—	—
RDD 7	—	—	—

(\*) n: BUFFER CARD No. (0~7)  
 -: UNCONNECTED

TABLE 6 CNV EXTERNAL TERMINAL CONNECTION CONFIGURATION  
 (CNV#0 OUTPUT AND CNV#1 INPUT)

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
00	SW#0	0	4n
01	SW#1	0	4n
02	SW#2	0	4n
03	SW#3	0	4n
04	SW#4	0	4n
05	SW#5	0	4n
06	SW#6	0	4n
07	SW#7	0	4n
08	SW#0	1	4n
09	SW#1	1	4n
10	SW#2	1	4n
11	SW#3	1	4n
12	SW#4	1	4n
13	SW#5	1	4n
14	SW#6	1	4n
15	SW#7	1	4n
16	SW#0	0	4n+1
17	SW#1	0	4n+1
18	SW#2	0	4n+1
19	SW#3	0	4n+1
20	SW#4	0	4n+1
21	SW#5	0	4n+1

FIG. 65

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
22	SW#6	0	4n+1
23	SW#7	0	4n+1
24	SW#0	1	4n+1
25	SW#1	1	4n+1
26	SW#2	1	4n+1
27	SW#3	1	4n+1
28	SW#4	1	4n+1
29	SW#5	1	4n+1
30	SW#6	1	4n+1
31	SW#7	1	4n+1
32	SW#0	0	4n+2
33	SW#1	0	4n+2
34	SW#2	0	4n+2
35	SW#3	0	4n+2
36	—	—	—
37	—	—	—
38	—	—	—
39	—	—	—
40	SW#0	1	4n+2
41	SW#1	1	4n+2
42	SW#2	1	4n+2
43	SW#3	1	4n+2
44	—	—	—
45	—	—	—
46	—	—	—
47	—	—	—
48	SW#0	0	4n+3
49	SW#1	0	4n+3
50	SW#2	0	4n+3
51	SW#3	0	4n+3
52	—	—	—
53	—	—	—
54	—	—	—
55	—	—	—
56	SW#0	1	4n+3
57	SW#1	1	4n+3
58	SW#2	1	4n+3
59	SW#3	1	4n+3
60	—	—	—
61	—	—	—
62	—	—	—
63	—	—	—
RDD 0	SW#R	0	4n
RDD 1	SW#R	1	4n
RDD 2	SW#R	0	4n+1
RDD 3	SW#R	1	4n+1

FIG. 66

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
RDD 4	SW#R	0	4n+2
RDD 5	SW#R	1	4n+2
RDD 6	SW#R	0	4n+3
RDD 7	SW#R	1	4n+3

(\*) n; BUFFER CARD No. (0~7)  
 -; UNCONNECTED

FIG. 67

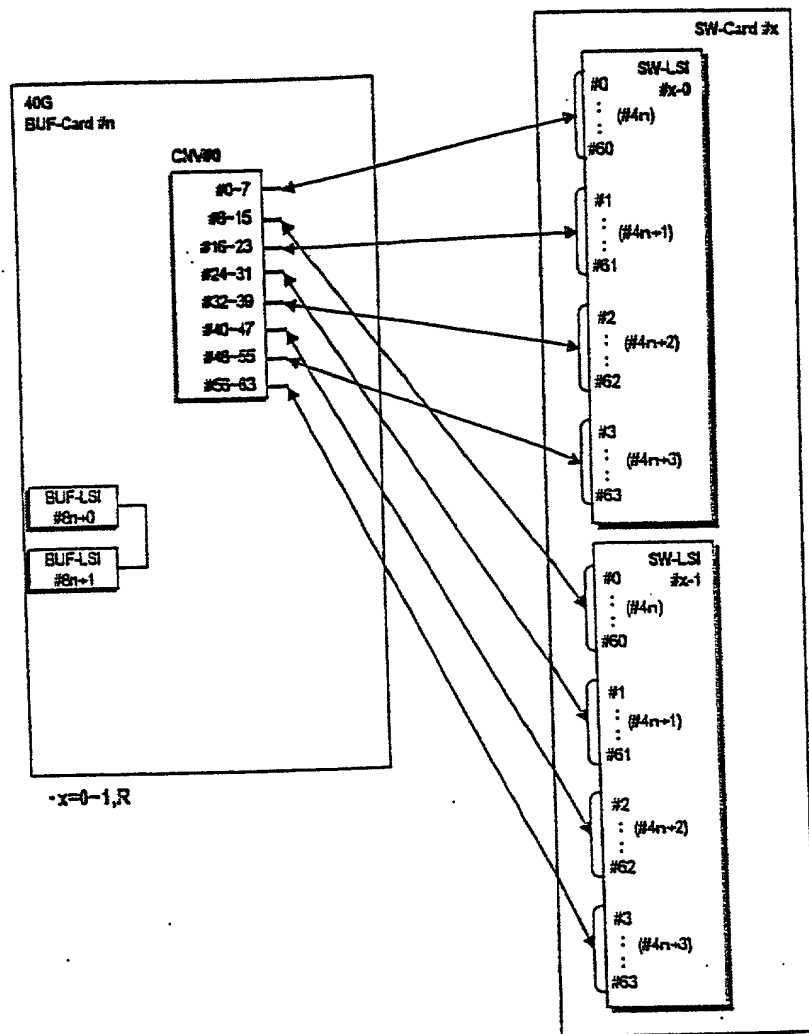


FIG. 68

40G  
BUF-Card #m

CSM#0

#0-7  
#8-15  
#16-23  
#24-31  
#32-39  
#40-47  
#48-55  
#56-63

BUF-LSI  
#0n-0

BUF-LSI  
#0n-1

-x=2-3

SW-Card #x

SW-LSI #x-0

#0  
:  
#(4n-1)  
#60  
#61  
#62  
#63

SW-LSI #x-1

#0  
:  
#(4n-1)  
#60  
#61  
#62  
#63

FIG. 69

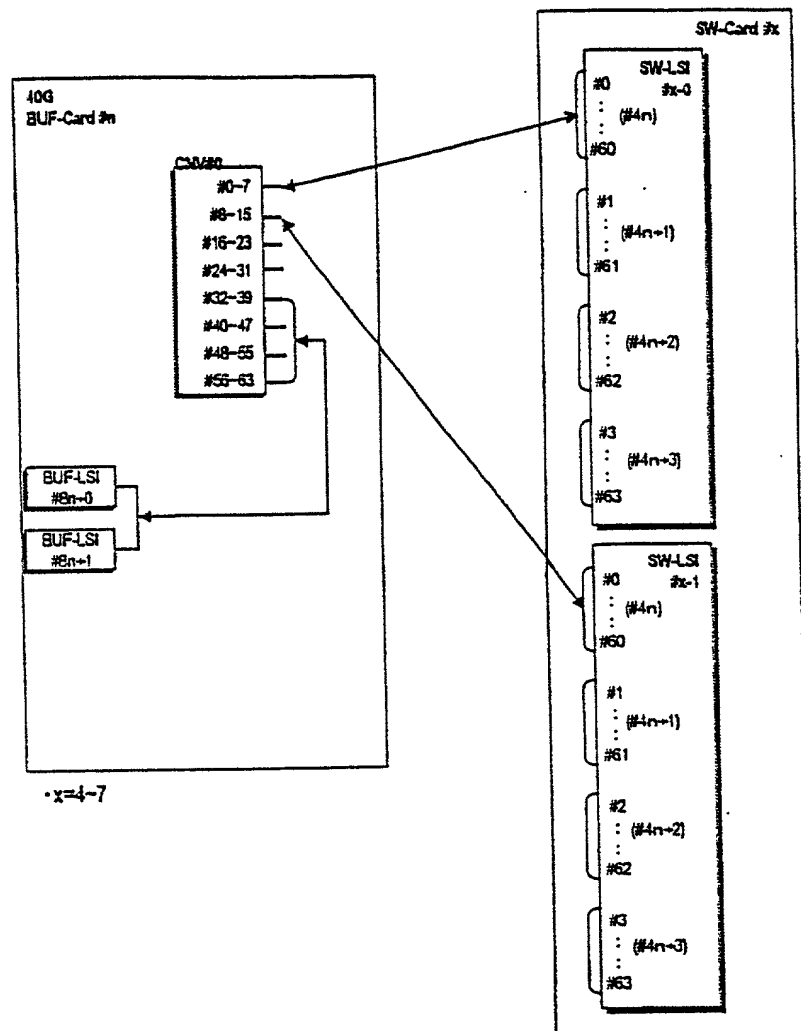


FIG. 70

TABLE 7 CNV EXTERNAL TERMINAL CONNECTION CONFIGURATION

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
00	SW#0	0	4n
01	SW#1	0	4n
02	SW#2	0	4n
03	SW#3	0	4n
04	SW#4	0	4n
05	SW#5	0	4n
06	SW#6	0	4n
07	SW#7	0	4n
08	SW#0	1	4n
09	SW#1	1	4n
10	SW#2	1	4n
11	SW#3	1	4n
12	SW#4	1	4n
13	SW#5	1	4n
14	SW#6	1	4n

FIG. 71

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
15	SW#7	1	4n
16	SW#0	0	4n+1
17	SW#1	0	4n+1
18	SW#2	0	4n+1
19	SW#3	0	4n+1
20	—	—	—
21	—	—	—
22	—	—	—
23	—	—	—
24	SW#0	1	4n+1
25	SW#1	1	4n+1
26	SW#2	1	4n+1
27	SW#3	1	4n+1
28	—	—	—
29	—	—	—
30	—	—	—
31	—	—	—
32	SW#0	0	4n+2
33	SW#1	0	4n+2
34	—	—	—
35	—	—	—
36	BUF#n	8n	0
37	BUF#n	8n	1
38	BUF#n	8n	2
39	BUF#n	8n	3
40	SW#0	1	4n+2
41	SW#1	1	4n+2
42	—	—	—
43	—	—	—
44	BUF#n	8n+1	0
45	BUF#n	8n+1	1
46	BUF#n	8n+1	2
47	BUF#n	8n+1	3
48	SW#0	0	4n+3
49	SW#1	0	4n+3
50	—	—	—
51	—	—	—
52	BUF#n	8n	4
53	BUF#n	8n	5
54	BUF#n	8n	6
55	BUF#n	8n	7
56	SW#0	1	4n+3
57	SW#1	1	4n+3
58	—	—	—
59	—	—	—
60	BUF#n	8n+1	4

FIG. 72



EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
61	BUF#n	8n+1	5
62	BUF#n	8n+1	6
63	BUF#n	8n+1	7
RDD 0	SW#R	0	4n
RDD 1	SW#R	1	4n
RDD 2	SW#R	0	4n+1
RDD 3	SW#R	1	4n+1
RDD 4	SW#R	0	4n+2
RDD 5	SW#R	1	4n+2
RDD 6	SW#R	0	4n+3
RDD 7	SW#R	1	4n+3

(\*) n; BUFFER CARD No. (0~7)  
-; UNCONNECTED

FIG. 73

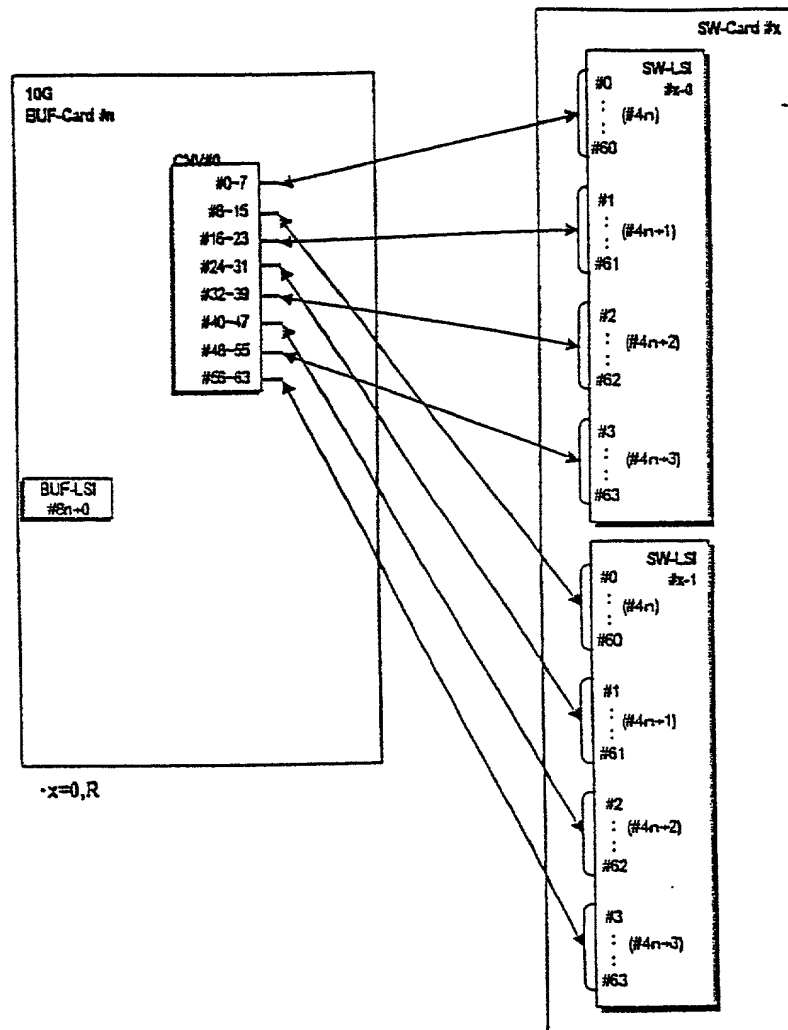


FIG. 74

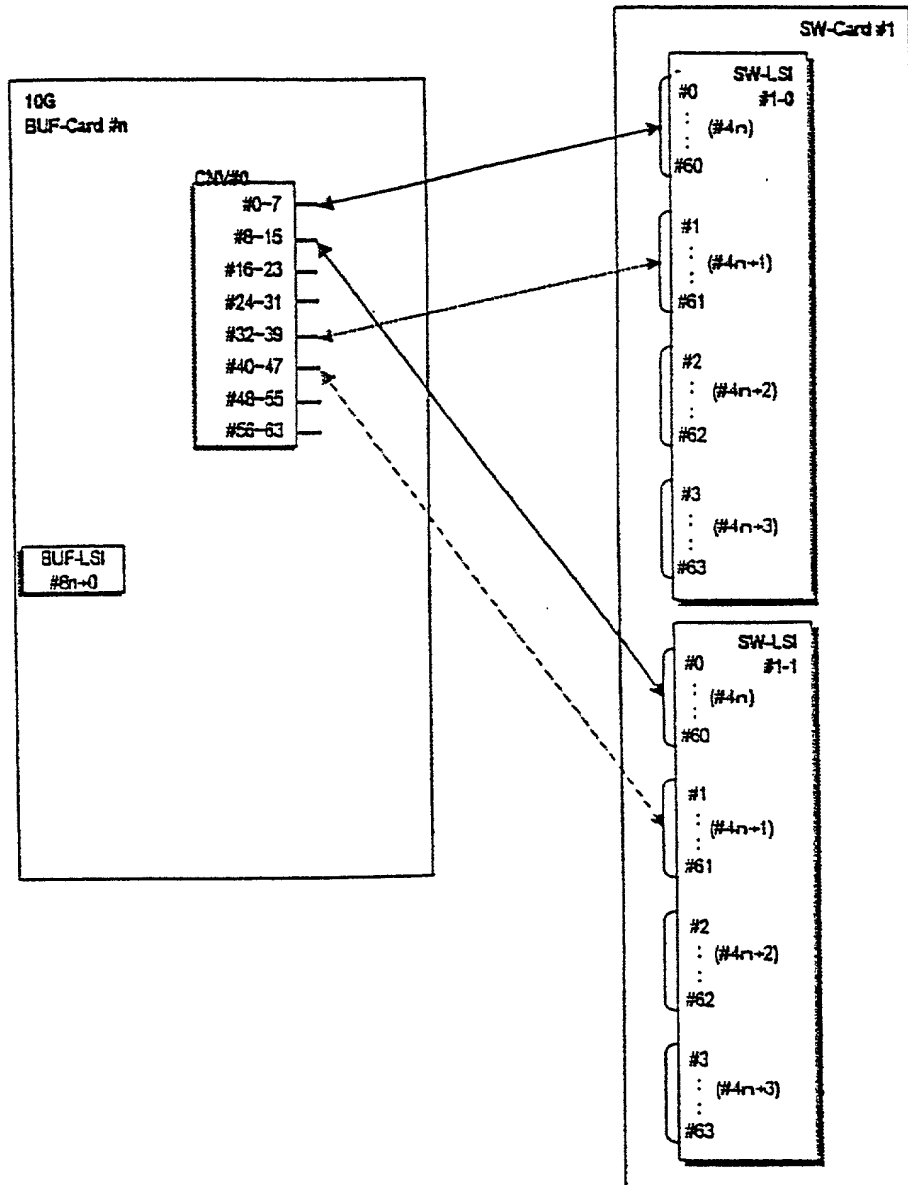


FIG. 75



TABLE 8 CNV EXTERNAL TERMINAL CONNECTION CONFIGURATION

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
00	SW#0	0	4n
01	SW#1	0	4n
02	SW#2	0	4n
03	SW#3	0	4n
04	SW#4	0	4n
05	SW#5	0	4n
06	SW#6	0	4n
07	SW#7	0	4n
08	SW#0	1	4n
09	SW#1	1	4n
10	SW#2	1	4n
11	SW#3	1	4n
12	SW#4	1	4n
13	SW#5	1	4n
14	SW#6	1	4n

FIG. 77

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
15	SW#7	1	4n
16	SW#0	0	4n+1
17	—	—	—
18	—	—	—
19	—	—	—
20	—	—	—
21	—	—	—
22	—	—	—
23	—	—	—
24	SW#0	1	4n+1
25	—	—	—
26	—	—	—
27	—	—	—
28	—	—	—
29	—	—	—
30	—	—	—
31	—	—	—
32	SW#0	0	4n+2
33	SW#1	0	4n+2
34	—	—	—
35	—	—	—
36	BUF#n	8n	0
37	BUF#n	8n	1
38	BUF#n	8n	2
39	BUF#n	8n	3
40	SW#0	1	4n+2
41	SW#1	1	4n+2
42	—	—	—
43	—	—	—
44	—	—	—
45	—	—	—
46	—	—	—
47	—	—	—
48	SW#0	0	4n+3
49	—	—	—
50	—	—	—
51	—	—	—
52	BUF#n	8n	4
53	BUF#n	8n	5
54	BUF#n	8n	6
55	BUF#n	8n	7
56	SW#0	1	4n+3
57	—	—	—
58	—	—	—
59	—	—	—
60	—	—	—

FIG. 78

EXTERNAL TERMINAL No. (DAT#)	CONNECTION DESTINATION		
	Card (TYPE, No.)	LSI No.	EXTERNAL TERMINAL No.
61	—	—	—
62	—	—	—
63	—	—	—
RDD 0	SW#R	0	4n
RDD 1	SW#R	1	4n
RDD 2	SW#R	0	4n+1
RDD 3	SW#R	1	4n+1
RDD 4	SW#R	0	4n+2
RDD 5	SW#R	1	4n+2
RDD 6	SW#R	0	4n+3
RDD 7	SW#R	1	4n+3

(\*) n; BUFFER CARD No. (0~7)  
 —; UNCONNECTED

FIG. 79

TABLE 9 OFFSET SETTING REGISTER TABLE (SW#0/1)

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	0	0	0	0
1	0	0	0	1
2	0	0	2	2
3	0	0	2	3
4	0	0	0	0
5	0	0	0	1
6	0	0	2	2
7	0	0	2	3
8	0	0	0	0
9	0	0	0	1
10	0	0	2	2
11	0	0	2	3
12	0	0	0	0
13	0	0	0	1
14	0	0	2	2
15	0	0	2	3
16	0	0	0	0
17	0	0	0	1
18	0	0	2	2
19	0	0	2	3
20	0	0	0	0
21	0	0	0	1
22	0	0	2	2
23	0	0	2	3
24	0	0	0	0
25	0	0	0	1
26	0	0	2	2
27	0	0	2	3
28	0	0	0	0
29	0	0	0	1
30	0	0	2	2
31	0	0	2	3

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
32	0	0	0	0
33	0	0	0	1
34	0	0	2	2
35	0	0	2	3
36	0	0	0	0
37	0	0	0	1
38	0	0	2	2
39	0	0	2	3
40	0	0	0	0
41	0	0	0	1
42	0	0	2	2
43	0	0	2	3
44	0	0	0	0
45	0	0	0	1
46	0	0	2	2
47	0	0	2	3
48	0	0	0	0
49	0	0	0	1
50	0	0	2	2
51	0	0	2	3
52	0	0	0	0
53	0	0	0	1
54	0	0	2	2
55	0	0	2	3
56	0	0	0	0
57	0	0	0	1
58	0	0	2	2
59	0	0	2	3
60	0	0	0	0
61	0	0	0	1
62	0	0	2	2
63	0	0	2	3

FIG. 80



◆160G Buffer-Card

TABLE 10 OFFSET SETTING REGISTER TABLE (CNV#0/1)

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	64	CONFIGURATION NOT ALLOWED		
1	66			
2	68			
3	70			
4	72			
5	74			
6	76			
7	78			
8	65			
9	67			
10	69			
11	71			
12	73			
13	75			
14	77			
15	79			
16	96			
17	98			
18	100			
19	102			
20	104			
21	106			
22	108			
23	110			
24	97			
25	99			
26	101			
27	103			
28	105			
29	107			
30	109			
31	111			

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
32	0	CONFIGURATION NOT ALLOWED		
33	2			
34	4			
35	6			
36	8			
37	10			
38	12			
39	14			
40	1			
41	3			
42	5			
43	7			
44	9			
45	11			
46	13			
47	15			
48	32			
49	34			
50	36			
51	38			
52	40			
53	42			
54	44			
55	46			
56	33			
57	35			
58	37			
59	39			
60	41			
61	43			
62	45			
63	47			

FIG. 81

◆80G Buffer-Card

TABLE 11 OFFSET SETTING REGISTER TABLE (CNV#0)

PORT No.	SW-CARD CONFIGURATION				PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)		8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	—	—	CONFIGURATION NOT ALLOWED		32	0	0	CONFIGURATION NOT ALLOWED	
1	—	—			33	2	2		
2	—	—			34	4	4		
3	—	—			35	6	6		
4	—	—			36	8	16		
5	—	—			37	10	18		
6	—	—			38	12	20		
7	—	—			39	14	22		
8	—	—			40	1	32		
9	—	—			41	3	34		
10	—	—			42	5	36		
11	—	—			43	7	38		
12	—	—			44	9	48		
13	—	—			45	11	50		
14	—	—			46	13	52		
15	—	—			47	15	54		
16	—	—			48	32	64		
17	—	—			49	34	66		
18	—	—			50	36	68		
19	—	—			51	38	70		
20	—	—			52	40	80		
21	—	—			53	42	82		
22	—	—			54	44	84		
23	—	—			55	46	86		
24	—	—			56	33	96		
25	—	—			57	35	98		
26	—	—			58	37	100		
27	—	—			59	39	102		
28	—	—			60	41	112		
29	—	—			61	43	114		
30	—	—			62	45	116		
31	—	—			63	47	118		

(\*) -: ARBITRARY SETTING VALUE DUE TO UNCONNECTION

FIG. 82

TABLE 12 OFFSET SETTING REGISTER TABLE (CNV#1)

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	64	64	CONFIGURATION NOT ALLOWED	
1	66	66		
2	68	68		
3	70	70		
4	72	—		
5	74	—		
6	76	—		
7	78	—		
8	65	72		
9	67	74		
10	69	76		
11	71	78		
12	73	—		
13	75	—		
14	77	—		
15	79	—		
16	96	80		
17	98	82		
18	100	84		
19	102	86		
20	104	—		
21	106	—		
22	108	—		
23	110	—		
24	97	88		
25	99	90		
26	101	92		
27	103	94		
28	105	—		
29	107	—		
30	109	—		
31	111	—		

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
32	—	96	CONFIGURATION NOT ALLOWED	
33	—	98		
34	—	100		
35	—	102		
36	—	—		
37	—	—		
38	—	—		
39	—	—		
40	—	104		
41	—	106		
42	—	108		
43	—	110		
44	—	—		
45	—	—		
46	—	—		
47	—	—		
48	—	112		
49	—	114		
50	—	116		
51	—	118		
52	—	—		
53	—	—		
54	—	—		
55	—	—		
56	—	120		
57	—	122		
58	—	124		
59	—	126		
60	—	—		
61	—	—		
62	—	—		
63	—	—		

(\*) -; ARBITRARY SETTING VALUE DUE TO UNCONNECTION

FIG. 83

◆40G Buffer-Card

TABLE 13 OFFSET SETTING REGISTER TABLE (CNV#0)

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	72	72	72	CONFIG- URATION NOT ALLOWED
1	74	74	74	
2	76	76	—	
3	78	78	—	
4	104	—	—	
5	106	—	—	
6	108	—	—	
7	110	—	—	
8	73	104	76	
9	75	106	78	
10	77	108	—	
11	79	110	—	
12	105	—	—	
13	107	—	—	
14	109	—	—	
15	111	—	—	
16	—	88	88	
17	—	90	90	
18	—	92	—	
19	—	94	—	
20	—	—	—	
21	—	—	—	
22	—	—	—	
23	—	—	—	
24	—	120	92	
25	—	122	94	
26	—	124	—	
27	—	126	—	
28	—	—	—	
29	—	—	—	
30	—	—	—	
31	—	—	—	

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
32	—	—	104	CONFIG- URATION NOT ALLOWED
33	—	—	106	
34	—	—	—	
35	—	—	—	
36	0	0	0	
37	2	2	2	
38	4	4	16	
39	6	6	18	
40	—	—	108	
41	—	—	110	
42	—	—	—	
43	—	—	—	
44	1	32	32	
45	3	34	34	
46	5	36	48	
47	7	38	50	
48	—	—	120	
49	—	—	122	
50	—	—	—	
51	—	—	—	
52	8	16	64	
53	10	18	66	
54	12	20	80	
55	14	22	82	
56	—	—	124	
57	—	—	126	
58	—	—	—	
59	—	—	—	
60	9	48	96	
61	11	50	98	
62	13	52	112	
63	15	54	114	

(\*) -: ARBITRARY SETTING VALUE DUE TO UNCONNECTION

FIG. 84

◆20G Buffer-Card

TABLE 14 OFFSET SETTING REGISTER TABLE (CNV#0)

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	72	72	72	72
1	74	74	74	—
2	76	76	—	—
3	78	78	—	—
4	104	—	—	—
5	106	—	—	—
6	108	—	—	—
7	110	—	—	—
8	73	104	76	74
9	75	106	78	—
10	77	108	—	—
11	79	110	—	—
12	105	—	—	—
13	107	—	—	—
14	109	—	—	—
15	111	—	—	—
16	—	88	88	76
17	—	90	90	—
18	—	92	—	—
19	—	94	—	—
20	—	—	—	—
21	—	—	—	—
22	—	—	—	—
23	—	—	—	—
24	—	120	92	78
25	—	122	94	—
26	—	124	—	—
27	—	126	—	—
28	—	—	—	—
29	—	—	—	—
30	—	—	—	—
31	—	—	—	—

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
32	—	—	104	104
33	—	—	106	—
34	—	—	—	—
35	—	—	—	—
36	0	0	0	0
37	2	2	2	16
38	4	4	16	32
39	6	6	18	48
40	—	—	108	106
41	—	—	110	—
42	—	—	—	—
43	—	—	—	—
44	—	—	—	—
45	—	—	—	—
46	—	—	—	—
47	—	—	—	—
48	—	—	—	108
49	—	—	—	—
50	—	—	—	—
51	—	—	—	—
52	8	16	64	64
53	10	18	66	80
54	12	20	80	96
55	14	22	82	112
56	—	—	—	110
57	—	—	—	—
58	—	—	—	—
59	—	—	—	—
60	—	—	—	—
61	—	—	—	—
62	—	—	—	—
63	—	—	—	—

(\*) -: ARBITRARY SETTING VALUE DUE TO UNCONNECTION

FIG. 85

SW-CARD CONFIGURATION	REGISTER SETTING VALUE
8 CARDS (2.56T)	2N
4 CARDS (1.28T)	$8 \times  N/4  + N \text{ mode } 4$
2 CARDS (640G)	$8 \times  N/4  + N \text{ mode } 2$
1 CARDS (320G)	$8 \times  N/4  + N \text{ mode } 1$

(  $|N/4|$  INDICATES QUOTIENT (POSITIVE INTEGER) OBTAINED BY DIVIDING N BY 4 )

FIG. 86

◆160G Buffer-Card

TABLE 15 SELECTOR SETTING REGISTER TABLE (CNV#0/1)

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	ALL 1	CONFIGURATION NOT ALLOWED		
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
32	ALL 1	CONFIGURATION NOT ALLOWED		
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				

FIG. 87

◆80G Buffer-Card

TABLE 16 SELECTOR SETTING REGISTER TABLE (CNV#0)

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
01		1	CONFIGURATION NOT ALLOWED	
11		1		
2	—	1		
31		1		
41		—		
51		—		
61		—		
71		—		
81		1		
91		1		
10	1	1		
11	1	1		
12	1	—		
13	1	—		
14	1	—		
15	1	—		
16	1	1		
17	1	1		
18	1	1		
19	1	1		
20	1	—		
21	1	—		
22	1	—		
23	1	—		
24	1	1		
25	1	1		
26	1	1		
27	1	1		
28	1	—		
29	1	—		
30	1	—		
31	1	—		

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
32	0	1	CONFIGURATION NOT ALLOWED	
33	0	1		
34	0	1		
35	0	1		
36	—	—		
37	—	—		
38	—	—		
39	—	—		
40	0	1		
41	0	1		
42	0	1		
43	0	1		
44	—	—		
45	—	—		
46	—	—		
47	—	—		
48	0	1		
49	0	1		
50	0	1		
51	0	1		
52	—	—		
53	—	—		
54	—	—		
55	—	—		
56	0	1		
57	0	1		
58	0	1		
59	0	1		
60	—	—		
61	—	—		
62	—	—		
63	—	—		

(\*) —; ARBITRARY SETTING VALUE DUE TO UNCONNECTION

FIG. 88



TABLE 17 SELECTOR SETTING REGISTER TABLE (CNV#1)

PORT No.	SW-CARD CONFIGURATION				PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)		8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	—	—	CONFIGURATION NOT ALLOWED		32	1	1	CONFIGURATION NOT ALLOWED	
1	—	—			33	1	1		
2	—	—			34	1	1		
3	—	—			35	1	1		
4	—	—			36	1	1		
5	—	—			37	1	1		
6	—	—			38	1	1		
7	—	—			39	1	1		
8	—	—			40	1	1		
9	—	—			41	1	1		
10	—	—			42	1	1		
11	—	—			43	1	1		
12	—	—			44	1	1		
13	—	—			45	1	1		
14	—	—			46	1	1		
15	—	—			47	1	1		
16	—	—			48	1	1		
17	—	—			49	1	1		
18	—	—			50	1	1		
19	—	—			51	1	1		
20	—	—			52	1	1		
21	—	—			53	1	1		
22	—	—			54	1	1		
23	—	—			55	1	1		
24	—	—			56	1	1		
25	—	—			57	1	1		
26	—	—			58	1	1		
27	—	—			59	1	1		
28	—	—			60	1	1		
29	—	—			61	1	1		
30	—	—			62	1	1		
31	—	—			63	1	1		

(\*) —: ARBITRARY SETTING VALUE DUE TO UNCONNECTION

FIG. 89

◆40G Buffer-Card

TABLE 18 SELECTOR SETTING REGISTER TABLE (CNV#0)

PORT No.	SW-CARD CONFIGURATION				
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)	
0	1	1	1	1	CONFIG- URATION NOT ALLOWED
1	1	1	1	1	
2	1	1	—	—	
3	1	1	—	—	
4	1	—	—	—	
5	1	—	—	—	
6	1	—	—	—	
7	1	—	—	—	
8	1	1	1	1	
9	1	1	1	1	
10	1	1	—	—	
11	1	1	—	—	
12	1	—	—	—	
13	1	—	—	—	
14	1	—	—	—	
15	1	—	—	—	
16	0	1	1	1	
17	0	1	1	1	
18	0	1	—	—	
19	0	1	—	—	
20	—	—	—	—	
21	—	—	—	—	
22	—	—	—	—	
23	—	—	—	—	
24	0	1	1	1	
25	0	1	1	1	
26	—	1	—	—	
27	—	1	—	—	
28	—	—	—	—	
29	—	—	—	—	
30	—	—	—	—	
31	—	—	—	—	

PORT No.	SW-CARD CONFIGURATION				
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)	
32	0	0	1	1	CONFIG- URATION NOT ALLOWED
33	0	0	1	1	
34	—	—	—	—	
35	—	—	—	—	
36	1	1	1	1	
37	1	1	1	1	
38	1	1	1	1	
39	1	1	1	1	
40	0	0	1	1	
41	0	0	1	1	
42	—	—	—	—	
43	—	—	—	—	
44	1	1	1	1	
45	1	1	1	1	
46	1	1	1	1	
47	1	1	1	1	
48	0	0	1	1	
49	0	0	1	1	
50	—	—	—	—	
51	—	—	—	—	
52	1	1	1	1	
53	1	1	1	1	
54	1	1	1	1	
55	1	1	1	1	
56	0	0	1	1	
57	0	0	1	1	
58	—	—	—	—	
59	—	—	—	—	
60	1	1	1	1	
61	1	1	1	1	
62	1	1	1	1	
63	1	1	1	1	

(\*) —; ARBITRARY SETTING VALUE DUE TO UNCONNECTION

FIG. 90

◆20G Buffer-Card

TABLE 19 SELECTOR SETTING REGISTER TABLE (CNV#0)

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	1	1	1	1
1	1	1	1	—
2	1	1	—	—
3	1	1	—	—
4	1	—	—	—
5	1	—	—	—
6	1	—	—	—
7	1	—	—	—
8	1	1	1	1
9	1	1	1	—
10	1	1	—	—
11	1	1	—	—
12	1	—	—	—
13	1	—	—	—
14	1	—	—	—
15	1	—	—	—
16	0	0	0	1
17	—	—	—	—
18	—	—	—	—
19	—	—	—	—
20	—	—	—	—
21	—	—	—	—
22	—	—	—	—
23	—	—	—	—
24	0	0	0	1
25	—	—	—	—
26	—	—	—	—
27	—	—	—	—
28	—	—	—	—
29	—	—	—	—
30	—	—	—	—
31	—	—	—	—

PORT No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
32	0	0	1	1
33	0	0	1	—
34	—	—	—	—
35	—	—	—	—
36	1	1	1	1
37	1	1	1	1
38	1	1	1	1
39	1	1	1	1
40	0	0	1	1
41	0	0	1	—
42	—	—	—	—
43	—	—	—	—
44	—	—	—	—
45	—	—	—	—
46	—	—	—	—
47	—	—	—	—
48	0	0	0	1
49	—	—	—	—
50	—	—	—	—
51	—	—	—	—
52	1	1	1	1
53	1	1	1	1
54	1	1	1	1
55	1	1	1	1
56	0	0	0	1
57	—	—	—	—
58	—	—	—	—
59	—	—	—	—
60	—	—	—	—
61	—	—	—	—
62	—	—	—	—
63	—	—	—	—

(\*) —; ARBITRARY SETTING VALUE DUE TO UNCONNECTION

FIG. 91

●160G Buffer-Card

RDD No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	1	CONFIGURATION NOT ALLOWED		
1	1			
2	1			
3	1			
4	0			
5	0			
6	0			
7	0			

F I G . 9 2

●80G Buffer-Card  
- CNV#0

RDD No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	1	1	CONFIGURATION NOT ALLOWED	
1	1	1		
2	1	1		
3	1	1		
4	0	1		
5	0	1		
6	0	1		
7	0	1		

- CNV#1  
DEFAULT VALUE IN ALL CASES (SETTING NOT REQUIRED)

●40G Buffer-Card

RDD No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	1	1	1	CONFIG- URATION NOT ALLOWED
1	1	1	1	
2	0	1	1	
3	0	1	1	
4	0	0	1	
5	0	0	1	
6	0	0	1	
7	0	0	1	

●20G Buffer-Card

RDD No.	SW-CARD CONFIGURATION			
	8 CARDS (2.56T)	4 CARDS (1.28T)	2 CARDS (640G)	1 CARDS (320G)
0	1	1	1	1
1	1	1	1	1
2	0	0	0	1
3	0	0	0	1
4	0	0	1	1
5	0	0	1	1
6	0	0	0	1
7	0	0	0	1

F I G. 9 3